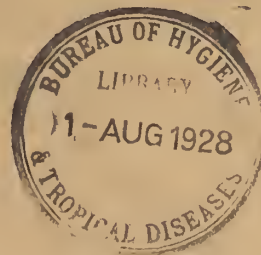


City of Birmingham.



REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR

1927.

BIRMINGHAM:

TEMPLAR PRINTING WORKS' EDMUND STREET. .

1928.



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PUBLIC HEALTH DEPARTMENT,
THE COUNCIL HOUSE,
BIRMINGHAM.

May, 1928.

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH COMMITTEE.

MR. CHAIRMAN, LADIES AND GENTLEMEN,

In presenting the Report for 1927, your Committee will recognise that I am dealing with a period of which I have no direct knowledge, seeing that my service in Birmingham began only in January, 1928. For that reason I have felt it advisable to repeat in outline the Report of the preceding year, drawing attention only to outstanding features in particular sections of the Report.

A perusal of the data set out in the statistical section of the Report will make it clear that the year was in general a healthy one with a death-rate and an infant mortality which were at a comparatively low level, even if they did not reach the very low figures registered for the City in 1926. There was, further, no great prevalence of epidemic disease.

I would draw attention to interesting information contained in Section VII. (Maternity and Child Welfare) regarding the distribution of mortality during the early weeks of infancy. It will be seen that this large element in the infant mortality seems to be but little influenced either by social or by environmental factors; and this, combined with other particulars in the same section pointing in a like direction, emphasises the need for greater attention to pre-natal care throughout all sections of the community.

While steady progress continues to be made in the provision of new houses, the problem of housing must continue to rank as one of the most urgent and fundamental questions confronting Birmingham. Much is being done, through your staff of sanitary inspectors and in other ways, to improve the conditions, often deplorable, of a large number of the least satisfactory houses in the City. But there is scope, and a great need, for more radical treatment of a large mass of mean houses spread through various portions of the City—houses which are dismal, dilapidated, insanitary and lacking in elementary amenities. It is not possible to measure the loss to Birmingham arising from the effects of such surroundings, not only through their adverse effect on physical welfare, but far more fundamentally through their hindrance to any real fulness of life. The problem calls all the more strongly for a solution through the contrast between this old and insanitary property and the remarkable new housing estates which have sprung up so rapidly under the Council's aegis.

It is to be hoped on the one hand that the proposals of the Government for facilitating slum treatment will mature quickly, and on the other that the re-housing scheme is approaching a stage at which the problem of the slums can be systematically attacked.

I am,

Your obedient servant,

H. P. NEWSHOLME,

Medical Officer of Health.

City of Birmingham.

REPORT OF THE MEDICAL OFFICER OF HEALTH For the year 1927.

SUMMARY OF STATISTICS.

Area (in acres), 43,601.

Population (Census 1921), 919,444.

Estimated by Medical Officer, 1927, 969,752.

Estimated by Registrar-General, 1927, 951,100.

Number of inhabited houses (1921), 190,459.

Number of families or separate occupiers (1921), 203,813.

Rateable value, £5,949,979.

Sum represented by a penny rate, £22,211.

Extracts from vital statistics of the year 1927 :—

Births—Legitimate, 16,622.	} Birth Rate, 17.8.
Illegitimate, 630.	

Deaths, 11,171.

Death Rate, 11.6.

Number of women dying in, or in consequence of,	From sepsis, 25.
childbirth.	From other causes, 37.

Deaths of Infants under one year of age per 1,000 births :—

Legitimate, 73. Illegitimate, 135. Total, 75.

Deaths from Measles (all ages), 129.

Deaths from Whooping Cough (all ages), 69.

Deaths from Diarrhœa (under two years of age), 198.

I. STATISTICS.

POPULATION.

The local estimate of the population for 1927 has been fixed at 969,752. In view of the fact that six years have passed since the taking of the Census, and that in many respects those six years have been quite abnormal—being marked by a rapid fall in the birth-rate, a scarcity of houses, and a vast amount of unemployment—there is great difficulty in estimating the present population of the City.

The Registrar General's estimate for each year since 1921 is given below :—

1921	...	...	...	...	936,000
1922	...	...	...	...	945,100
1923	...	...	...	...	946,400
1924	...	...	...	...	946,980
1925	...	...	...	...	945,900
1926	...	...	...	...	934,300
1927	...	...	...	...	951,100

There is nothing in the local conditions which would justify such variations in the estimated population as are shown above, and for local purposes the population from 1921 to 1927 has been estimated on the assumption that the rate of increase shown between 1911 and 1921 has continued year by year for the following six years. It is now felt, however, that the rate of increase has probably declined and allowance will be made for this fact in estimating the population in future years.

In 1927 an estimate of the population at various age periods was made from the births and the deaths at different ages, and the figure thus obtained corresponds fairly closely with that obtained by the method of carrying on the rate of increase which had been in force between the last two censuses.

MARRIAGES.

The marriage-rate in Birmingham has been as follows :—

1881	...	...	...	...	16.2
1891	...	...	...	...	19.2
1901	...	...	...	...	18.8
1911	...	...	...	...	19.2
1921	...	...	...	...	15.9
1922	...	...	...	...	15.5
1923	...	...	...	...	16.3
1924	...	...	...	...	16.0
1925	...	...	...	...	16.9
1926	...	...	...	...	16.0
1927	...	...	...	...	17.1

BIRTHS.

The number of babies born in 1927 was 17,252, equal to a birth-rate of 17.8 per 1,000.

BIRTH-RATES PER 1,000.

	Birmingham.				England and Wales.		
1901-1905	30.7	...	...	28.2
1906-1910	28.3	...	...	26.3
1911-1915	25.9	...	...	23.6
1916-1920	22.1	...	...	20.1
1921-1925	20.8	...	...	19.9
1918	19.4	...	...	17.7
1919	20.9	...	...	18.5
1920	27.6	...	...	25.5
1921	24.1	...	...	22.4
1922	21.5	...	...	20.4
1923	20.4	...	...	19.7
1924	19.2	...	...	18.8
1925	18.8	...	...	18.3
1926	18.7	...	...	17.8
1927	17.8	...	...	16.7

The birth-rate is the lowest on record for the City ; but is still 1.1 per 1,000 above that for England and Wales.

The birth-rates in the various wards were as follows:—

Ward.						Birth-rate. 1927.	
Central Wards	...	St. Paul's	25.4	Average 22.7
		St. Mary's	...	...	...	25.8
		Duddeston and Nechells	...	...	...	23.1
		St. Bartholomew's	...	...	...	23.3
		St. Martin's and Deritend	...	...	...	22.0
		Market Hall	...	...	...	19.2
		Ladywood	20.4	
Middle Ring	...	Lozells	16.4	Average 16.4
		Aston	...	...	...	19.9
		Washwood Heath	...	...	...	17.7
		Saltley	...	...	...	17.7
		Small Heath	...	...	...	15.2
		Sparkbrook	...	...	...	15.3
		Balsall Heath	...	...	...	16.0
		Edgbaston	...	...	...	11.6
		Rotton Park	...	...	...	16.5
		All Saints	17.6	
Outer Ring	...	Soho	14.1	Average 15.0
		Sandwell	...	...	...	12.2
		Handsworth	...	...	...	11.7
		Erdington North	...	...	...	20.3
		Erdington South	...	...	...	14.8
		Yardley	...	...	...	18.9
		Acock's Green	...	...	...	14.3
		Sparkhill	...	...	...	16.2
		Moseley and King's Heath	...	...	...	15.4
		Selly Oak	...	...	...	13.6
		King's Norton	...	...	...	13.6
		Northfield	...	...	...	18.3
		Harborne	11.2	

This table shows that the average birth-rate in the central wards was 22.7 in 1927, while in the suburban wards it was 15.0.

Corresponding figures for the past 5 years are given in the statement below.

Average birth-rate.			Central Wards.	Middle Ring.	Outer Ring.
1923	...	...	26.9	19.5	16.3
1924	...	...	25.2	18.2	15.4
1925	...	...	24.1	17.9	15.2
1926	...	...	24.1	17.4	14.6
1927	...	...	22.7	16.4	15.0

The diagram on page 10 shows the position of the various wards and the division into "Central," "Middle" and "Outer." On this diagram the birth-rate for 1927 is shown by the upper, and the death-rate by the lower, of the two figures.

Throughout this report statistics will be given relating to these groups of wards and the plan will therefore be of interest, not only in connection with the local distribution of the births and deaths, but also with the incidence of infectious diseases and in other ways. In the section on Housing for instance it will be noted that the great majority of the new houses have been built in wards where a good mortality rate at present prevails.



ILLEGITIMACY.

During 1927 there were 630 illegitimate births belonging to Birmingham; i.e., 3.7 in every 100 babies born, or about one to every 200 unmarried women aged 15 to 45 years.

The corresponding number in each year since 1921 is shown below.

			Number of illegitimate babies born.			Percentage on Total Births.
1921	...	...	823	...	...	3.7
1922	...	...	719	...	...	3.6
1923	...	...	610	...	...	3.2
1924	...	...	583	...	...	3.2
1925	...	...	589	...	...	3.3
1926	...	...	607	...	...	3.4
1927	...	...	630	...	...	3.7

Of the 630 illegitimate babies 556 were born in the City and 74 in other places to which the mother had gone for confinement.

Of the 556 babies born in the City no less than 282 were born in institutions, 245 being in Poor Law Hospitals.

The infant mortality rate among these illegitimate babies was 135 per 1,000 as compared with 73 per 1,000 for the legitimate. The mortality rate is slightly lower than that of 150 per 1,000 recorded in 1926.

The following statement shows to some extent the manner in which the illegitimate babies born in 1927 were provided for:—

Total number reported in 1927	...	...	...	...	556
Number still remaining in infirmaries, etc.	...	...	...	...	69
Number who died before a visit was paid	...	...	...	...	43
Number removed before a visit was paid	...	...	...	...	33
Number visited once at least	...	...	...	...	411
Father and mother living together	...	...	...	...	122
Father making an allowance—					
(a) Under Order	...	...	...	...	59
(b) Voluntarily	...	...	...	...	54
Father not contributing	...	...	...	...	148
No information	...	...	...	...	28

DEATHS.

There were 11,171 deaths registered during 1927. In 1926 the number was 10,847, and in 1925, 11,102.

Of these deaths there were 5,746 males, 5,425 females.

DEATH-RATES.

The death-rates represented by the above figures are as follows:—

Total 11.6 Females, 10.6 per 1,000.
 Males, 12.6 per 1,000.

The death-rates during the past 50 years are shown in the following table.

DEATH-RATES IN BIRMINGHAM AND ENGLAND AND WALES.

		Birmingham.		England and Wales.
1871-1875 (Old City)	...	25.2	...	22.0
1876-1880	„	22.8	...	20.8
1881-1885	„	20.7	...	19.4
1886-1890	„	20.2	...	18.9
1891-1895	„	20.3	...	18.7
1896-1900	„	20.5	...	17.7
1901-1905 (Present Area)	...	16.5	...	16.0
1906-1910	„	15.0	...	14.7
1911-1915	„	14.6	...	14.3
1916-1920	„	13.4	...	14.5
1921-1925	„	11.5	...	12.2
1918	„	15.2	...	17.6
1919	„	13.0	...	13.7
1920	„	12.6	...	12.4
1921	„	11.3	...	12.1
1922	„	12.1	...	12.8
1923	„	11.0	...	11.6
1924	„	11.6	...	12.2
1925	„	11.7	...	12.2
1926	„	11.3	...	11.6
1927	„	11.6	...	12.3

The Birmingham death-rate compares well with that of the other great towns, as seen from the statement appended.

COMPARATIVE DEATH-RATES IN NINE LARGEST TOWNS.

(Registrar General's Figures.)

London	...	...	...	...	...	...	...	11.9 per 1,000
Glasgow	...	...	...	...	...	...	...	14.6 „
Birmingham	...	...	...	...	...	...	...	11.8 „
Liverpool	...	...	...	...	...	...	...	13.5 „
Manchester	...	...	...	...	...	...	...	13.7 „
Sheffield	...	...	...	...	...	...	...	12.1 „
Leeds	...	...	...	...	...	...	...	12.8 „
Edinburgh	...	...	...	...	...	...	...	14.3 „
Bristol	...	...	...	...	...	...	...	12.3 „

There are still considerable variations in mortality in various wards of the City, as shown in the table below:—

DEATH-RATES IN WARDS.

	Ward.	Death-rate 1927.	
Central Wards	St. Paul's	16.2	Average 14.3
	St. Mary's	16.6	
	Duddeston and Nechells	13.1	
	St. Bartholomew's	13.4	
	St. Martin's and Deritend	14.8	
	Market Hall	12.5	
	Ladywood	13.2	
Middle Ring	Lozells	11.5	Average 11.1
	Aston	12.1	
	Washwood Heath	9.7	
	Saltley	8.8	
	Small Heath	8.6	
	Sparkbrook	11.2	
	Balsall Heath	13.2	
	Edgbaston	11.2	
	Rotton Park	12.4	
Outer Ring	All Saints'	12.5	Average 9.7
	Soho	11.7	
	Sandwell	9.7	
	Handsworth	10.6	
	Erdington North	9.4	
	Erdington South	7.9	
	Yardley	8.8	
	Acocks Green	8.8	
	Sparkhill	10.0	
	Moseley and Kings Heath	10.6	
	Selly Oak	9.7	
	Kings Norton	8.9	
	Northfield	9.2	
	Harborne	10.7	

St. Mary's ward with a death-rate of 16.6 per 1,000 is, as is nearly always the case, the district with the worst death-rate.

GROUPS OF WARDS.

It will be noticed from the table that the Central Wards had a death-rate of 14.3, the middle ring of wards one of 11.1, and the outer ring of wards one of 9.7 per 1,000 living in these areas. There has been a closer approximation of the death-rate in the Central Wards to that of the Outer Wards in recent years. At one time it used to be twice as high, while it is now only half as high again.

The average death-rate in each group in each of the last 5 years is given below :—

			Central Wards.	Middle Ring.	Outer Ring.
1923	...	...	13.8	10.6	9.1
1924	...	...	14.5	11.2	9.8
1925	...	...	14.5	11.6	9.3
1926	...	...	14.1	10.9	9.2
1927	...	...	14.3	11.1	9.7

MORTALITY AT DIFFERENT AGE PERIODS.

The mortality at different age periods during 1927 was as follows :—

					Approximate Population.	Deaths.	Approximate Death-rate per 1,000	Per centage of Total Deaths.
Under 1 year	...	...	...	...	16,300	1,299	79.7	11.6
1 and under 2	...	...	...	...	16,400	342	20.9	3.1
2 „ 3	...	...	...	...	16,000	121	7.6	1.1
3 „ 4	...	...	...	...	16,300	76	4.7	0.7
4 „ 5	...	...	...	...	17,000	50	2.9	0.4
5 „ 10	...	...	...	...	80,000	196	2.4	1.8
10 „ 15	...	...	...	...	88,000	128	1.5	1.1
15 „ 20	...	...	...	...	89,500	190	2.1	1.7
20 „ 25	...	...	...	...	85,500	241	2.8	2.2
25 „ 35	...	...	...	...	150,500	518	3.4	4.6
35 „ 45	...	...	...	...	135,500	814	6.0	7.3
45 „ 55	...	...	...	...	116,000	1,324	11.4	11.9
55 „ 65	...	...	...	...	82,000	1,677	20.5	15.0
65 „ 75	...	...	...	...	42,500	2,080	48.9	18.6
75 and upwards	...	...	...	...	18,500	2,115	114.3	18.9

The table indicates the very low death-rates during childhood, adolescence, and earlier adult life, and the much heavier mortality in infancy and after the age of 45. About one quarter of the total number of deaths occur between the ages of 25 and 55, that is during an individual's most productive period of life.

The next table shows the main causes of mortality among adults of various ages.

DEATHS FROM CERTAIN CAUSES AT AGE PERIODS.

Deaths from	20-24	25-34	35-44	45-54	55-64	65-74	75-
Influenza	10	29	55	47	71	83	59
Pulmonary Tuberculosis ...	92	185	194	186	82	23	3
Cancer	9	17	96	246	378	369	189
Diseases of Nervous System ...	8	21	36	112	158	247	217
Diseases of Heart and Circulation	25	46	93	237	415	625	728
Respiratory Diseases	15	45	111	175	220	327	362
Diseases of Digestive System ...	10	33	58	81	95	79	53
Urinary System	8	18	36	59	75	104	75
Puerperal Diseases	5	41	13	1	—	—	—
Violence	25	43	59	69	67	56	75

It will be noted that the table continues to show that :

- (1) Pulmonary tuberculosis is the greatest cause of death between 20 and 45 years of age.

There were 471 deaths from this cause and at this age period last year.

- (2) At ages over 45 heart disease is markedly the chief cause.

- (3) Cancer plays a large part in the mortality from 45 years onwards.

- (4) Respiratory diseases generally, and diseases of the nervous system, become of increasing importance with advancing age.

The principal causes of death at all ages during 1927 were as follows:—

PRINCIPAL CAUSES OF DEATH, 1927.

						Proportion Number per 1,000 deaths of deaths. from all causes.	
Measles	...	...	...	...	(142)	129	12
Whooping Cough	...	...	...	...	(168)	69	6
Diphtheria	...	...	...	...	(126)	61	5
Influenza	...	...	...	...	(560)	399	36
Tuberculosis (all forms)	...	...	...	...	(1123)	1017	91
<i>Tuberculosis of respiratory system</i>	...	...	...	...	(962)	857	77
<i>Other forms of Tuberculosis</i>	...	...	...	...	(161)	160	14
Cancer—Malignant Disease	...	...	...	...	(1061)	1313	118
Diseases of nervous system and sense organs	...	...	...	...	(978)	895	80
Total diseases of heart and circulation	...	...	...	...	(1704)	2209	198
<i>Diseases of Heart</i>	...	...	...	...	(1324)	1719	154
<i>Other diseases of circulatory system</i>	...	...	...	...	(380)	490	44
Total diseases of respiratory system	...	...	...	...	(2070)	1825	163
<i>Bronchitis</i>	...	...	...	...	(975)	694	62
<i>Pneumonia—all forms</i>	...	...	...	...	(965)	1020	91
<i>Other diseases of respiratory system...</i>	...	...	...	...	(130)	111	10
Total diseases of digestive system	...	...	...	...	(716)	678	60
<i>Diarrhœa and enteritis</i>	...	...	...	...	(306)	238	21
<i>Other diseases of digestive system</i>	...	...	...	...	(410)	440	39
Non-venereal diseases of genito-urinary system	...	...	...	...	(350)	398	36
Premature birth and diseases of early infancy	...	...	...	...	(720)	622	56
Old age	...	...	...	...	(525)	353	32
Violence (all forms)	...	...	...	...	(391)	495	44
Other causes	...	...	...	...	(646)	708	63
Total Deaths						11171	1000

(Note.—Figures in brackets represent the average number of deaths in the decennium 1917-26).

From the above figures it will be seen that the principal killing diseases were:—

Tuberculosis, 1,017 deaths (see page 61).

Cancer, 1,313 deaths (see page 15).

Heart Disease, etc., 2,209 deaths (see page 16).

Respiratory Diseases, 1,825 deaths (see page 19).

INFANT MORTALITY.

(See page 81).

CANCER.

There were 1,313 deaths from cancer in Birmingham in 1927, as compared with 1,205 in 1926 and 1,204 in 1925.

The recorded death-rate from cancer has been as follows :—

DEATH-RATE PER 1,000 FROM CANCER.

				Birmingham.	England and Wales.
1901-1905	...	...	...	.74	.87
1906-1910	...	...	...	.84	.94
1911-1915	...	...	...	.94	1.06
1916-1920	...	...	...	1.03	1.18
1921-1925	...	...	...	1.21	1.27
1918	...	...	...	1.02	1.20
1919	...	...	...	1.01	1.18
1920	...	...	...	1.12	1.17
1921	...	...	...	1.12	1.21
1922	...	...	...	1.18	1.23
1923	...	...	...	1.17	1.27
1924	...	...	...	1.30	1.30
1925	...	...	...	1.27	1.34
1926	...	...	...	1.26	—
1927	...	...	...	1.36	—

The mortality from cancer was distributed over various age periods as shown below :—

CANCER MORTALITY AT VARIOUS AGES.

				Deaths, 1927.	Death-rate per 1,000.
Under 25 years	...	...	...	18	.04
25—34 years	...	...	...	17	.11
35—44 years	...	...	...	96	.71
45—54 years	...	...	...	246	2.12
55—64 years	...	...	...	378	4.61
65—74 years	...	...	...	369	8.68
75 years and over	...	...	...	189	10.22

The distribution of the deaths over the various wards of the City was as follows :—

CANCER DEATH-RATES IN WARDS.

		Ward.			Death-rate 1927.	
Central Wards	...	St. Paul's	1.53	Average 1.39
		St. Mary's	...	...	1.47
		Duddeston and Nechells	...	...	1.22
		St. Bartholomew's	...	...	1.64
		St. Martin and Deritend	...	...	1.67
		Market Hall	...	...	0.89
		Ladywood	...	...	1.29
Middle Ring	...	Lozells	1.58	Average 1.38
		Aston	...	...	1.49
		Washwood Heath	...	...	1.27
		Saltley	...	...	0.91
		Small Heath	...	...	1.44
		Sparkbrook	...	...	1.09
		Balsall Heath	...	...	1.59
		Edgbaston	...	...	1.73
		Rotton Park	...	...	1.25
		All Saints	1.44	

Outer Ring	...	Soho	1.68	Average 1.26
		Sandwell	1.17	
		Handsworth	1.19	
		Erdington North	0.96	
		Erdington South	1.02	
		Yardley	1.16	
		Acocks Green	1.39	
		Sparkhill	1.31	
		Moseley and Kings Heath	1.37	
		Selly Oak	1.43	
		Kings Norton	0.96	
		Northfield	1.20	
		Harborne	1.51	

The mortality rate from cancer continues to be fairly equally distributed over the City. It will be noted that the highest rate was 1.73 per 1,000 in Edgbaston Ward.

The large table on page 17 shows approximately the primary site at which cancer started in the cases which proved fatal in 1927.

It will be noted these are as follows :—

1. Lips, tongue, palate or jaw	67
2. Pharynx, œsophagus, stomach, liver	384
3. Peritoneum, intestine, rectum	299
	<hr/> 750
4. Female organs of reproduction	130
5. Breast	148
	<hr/> 278
6. Skin	8
7. Other organs	277
	<hr/> 1313

This classification, while not based on any scientific principle, is adopted because it is convenient thus to group the certificates of death.

In more than half the fatal cases of cancer the primary site was in the alimentary tract.

DISEASES OF THE HEART AND BLOOD VESSELS.

There were 2,209 deaths last year from diseases of the heart and blood vessels.

The death-rates during the past 10 years have been as follows :—

	Birmingham.	England and Wales.
1918	1.77	1.83
1919	1.73	1.88
1920	1.72	1.75
1921	1.64	1.80
1922	1.85	2.00
1923	1.71	1.93
1924	1.91	2.04
1925	2.11	2.16
1926	2.12	—
1927	2.28	—

The ages at death and death-rate per thousand were as follows :—

	Deaths.	Death-rate per 1,000.
Under 25 years	65	.15
25—34 years	46	.31
35—44 years	93	.69
45—54 years	237	2.04
55—64 years	415	5.06
65—74 years	625	14.71
75 years and over	728	39.35
	<hr/>	<hr/>
All ages	2,209	2.28

It will be noted that 856 of these deaths occurred in persons under 65 years of age.

DEATHS FROM CANCER IN 1927.

Ages.	Lip, Tongue, Palate, Jaw.		Pharynx, Oesophagus, Stomach, Liver.		Peritoneum, Intestine, Rectum.		Female Organs of Reproduction.		Breast.		Skin.		Other Organs.		Total.	
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.
Under 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	1
5—	—	—	—	1	—	—	—	—	—	—	—	—	1	2	3	4
10—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2
15—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2	2
20—	1	—	2	—	1	—	—	—	—	1	—	—	3	1	4	9
25—	—	—	—	—	—	—	—	2	—	2	—	—	4	3	7	17
35—	1	1	10	7	8	11	—	22	—	20	—	—	11	5	16	96
45—	12	5	39	24	19	24	—	35	—	38	—	—	36	14	50	246
55—	22	3	66	42	44	39	—	34	—	42	3	2	63	18	81	378
65—	14	1	74	61	55	38	—	29	—	24	1	1	44	27	71	369
75—	5	1	20	27	21	30	—	8	—	15	—	1	26	12	38	166
85—	—	—	—	5	4	5	—	—	—	6	—	—	2	1	3	23
All Ages	56	11	217	167	152	147	—	130	—	148	4	4	192	85	277	1313

The variety of disease in the 2,209 cases was as follows :—

1.	All varieties of heart disease	...	...	...	...	1719
2.	All varieties of diseases of blood vessels	...	...	...	...	490
						Total 2,209

This total was made up as follows :—

(a)	Pericarditis	...	...	...	...	13
(b)	Infective Endocarditis	...	...	...	...	47
(c)	Angina Pectoris	...	...	...	...	51
(d)	Aortic Valve Disease	...	...	...	...	63
(e)	Mitral Valve Disease	...	...	...	...	183
(f)	Unspecified valvular disease	...	...	...	...	153
(g)	Fatty Heart	...	...	...	...	27
(h)	Undefined Heart Disease	...	...	...	...	1182
(i)	Arterio sclerosis	...	...	...	...	436
(j)	Aneurism	...	...	...	...	14
(k)	Other Diseases of Blood Vessels	...	...	...	...	40

The bulk of the mortality is caused by disease of the heart and arterio sclerosis and was distributed over the City as indicated by the death-rates in the following table.

DEATH-RATES FROM HEART DISEASE AND ARTERIO SCLEROSIS IN WARDS.

Ward.					Death-rate 1927.		
Central Wards	...	St. Paul's	2.99	}	Average 2.54
		St. Mary's	...	...	2.90
		Duddeston and Nechells	...	...	2.07
		St. Bartholomew's	...	...	2.39
		St. Martin's and Deritend	...	...	2.79
		Market Hall	...	...	2.57
		Ladywood	...	...	2.07
Middle Ring	...	Lozells	2.30	}	Average 2.18
		Aston	...	...	2.43
		Washwood Heath	...	...	1.48
		Saltley	...	...	1.68
		Small Heath	...	...	1.61
		Sparkbrook	...	...	2.51
		Balsall Heath	...	...	2.96
		Edgbaston	...	...	2.41
		Rotton Park	...	...	2.22
		All Saints	...	...	2.22
Outer Ring	...	Soho	1.68	}	Average 1.97
		Sandwell	...	...	1.99
		Handsworth	...	...	2.46
		Erdington North	...	...	1.89
		Erdington South	...	...	1.62
		Yardley	...	...	1.74
		Acocks Green	...	...	1.55
		Sparkhill	...	...	2.06
		Moseley and Kings Heath	...	...	2.41
		Selly Oak	...	...	2.06
		Kings Norton	...	...	2.27
		Northfield	...	...	1.57
		Harborne	...	...	2.27

BRONCHITIS, PNEUMONIA AND OTHER RESPIRATORY DISEASES.

The mortality from these diseases in Birmingham, and England and Wales is shown in the next table.

				Birmingham.	England & Wales.
1901-1905	...	...	...	3.19	2.77
1906-1910	...	...	...	2.82	2.54
1911-1915	...	...	...	2.64	2.44
1916-1920	...	...	...	2.54	2.55
1921-1925	...	...	...	2.10	2.05
1918	...	...	...	2.85	3.02
1919	...	...	...	2.67	2.53
1920	...	...	...	2.46	2.17
1921	...	...	...	2.02	1.96
1922	...	...	...	2.38	2.31
1923	...	...	...	1.98	1.87
1924	...	...	...	2.15	2.13
1925	...	...	...	1.97	2.00
1926	...	...	...	1.88	—
1927	...	...	...	1.89	—

The reduction shown in the above table between the first and last quinquennium is—

Birmingham	...	...	...	34 per cent.
England and Wales	...	...	...	26 per cent.

It will be noted that in 1925 and one or two other recent years, the rate for the City was below that for the whole country.

The distribution of the deaths from Respiratory Diseases over the wards of the City was as follows :—

DEATH-RATE PER 1,000 FROM RESPIRATORY DISEASES.

	Ward.	Death-rate 1927.	
Central Wards	St. Paul's	3.50	Average 2.80
	St. Mary's	3.27	
	Duddeston and Nechells	2.87	
	St. Bartholomew's	2.21	
	St. Martin's and Deritend	2.45	
	Market Hall	2.40	
	Ladywood	2.92	
Middle Ring	Lozells	2.15	Average 1.82
	Aston	2.43	
	Washwood Heath	1.61	
	Saltley	1.37	
	Small Heath	1.35	
	Sparkbrook	1.73	
	Balsall Heath	1.94	
	Edgbaston	1.59	
	Rotton Park	1.86	
	All Saints'	2.15	
Outer Ring	Soho	2.38	Average 1.28
	Sandwell	1.55	
	Handsworth	1.30	
	Erdington North	1.20	
	Erdington South	0.64	
	Yardley	1.00	
	Acocks Green	1.31	
	Sparkhill	1.31	
	Moseley and King's Heath	1.23	
	Selly Oak	1.16	
	King's Norton	1.31	
	Northfield	0.74	
	Harborne	1.51	

The mortality from respiratory diseases at ages is shown below.

					Deaths.	Death-Rate per 1,000.
Under 1 year	...	...	...	...	275	16.87
1 year	...	...	...	...	161	9.82
2 years	...	...	...	...	48	3.00
3 years	...	...	...	...	21	1.29
4 years	...	...	...	...	8	0.47
5—24 years	...	...	...	...	72	0.21
25—34 years	...	...	...	...	45	0.30
35—44 years	...	...	...	...	111	0.82
45—54 years	...	...	...	...	175	1.51
55—64 years	...	...	...	...	220	2.68
65—74 years	...	...	...	...	327	7.69
75 and over	...	...	...	...	362	19.57

Cases of acute Primary and acute Influenzal Pneumonia are reported to the Public Health Department and a visit is paid to the home by a Health Visitor (see page 24).

DEATHS IN INSTITUTIONS.

Of the 11,171 deaths in 1927, 4,655 occurred in institutions, viz. :—

- 2,991 in Poor Law Institutions.
- 85 in Municipal Fever Hospitals.
- 264 in Municipal Sanatoria.
- 182 in Public Mental Hospitals.
- 23 in other Municipal Hospitals.
- 920 in other Hospitals charitably supported.
- 164 in Private Nursing Homes.
- 26 in Homes.

II. GENERAL HEALTH SERVICES.

HOSPITAL PROVISION.

The following is a list of Birmingham Hospitals (other than private hospitals) and the accommodation provided by them. Those marked (c) are supported wholly by the City Council, those marked (p) partly so.

	No. of beds.
A.1.—FEVER.	
City Hospital, Little Bromwich (c)	466
City Hospital, Lodge Road (c)	253
2.—SMALLPOX.	
Witton Smallpox Hospital (c)	24
B.1.—TUBERCULOSIS.	
Yardley Road Sanatorium (c)	325
West Heath Sanatorium (c)	115
Salterley Grange Sanatorium, Cheltenham (c)	68
Romsley Hill Sanatorium, Halesowen (c)	120
Woodlands and Forelands (Cripples' Union) (p)	188*
(Also a few beds in general hospitals towards the maintenance of which the City Council makes a grant).	
*About 100 of these are generally in use for Tuberculosis cases.	
2.—MATERNITY.	
Maternity Hospital (p)	65
Heathfield Road Maternity Home (c)	18
(Also a number of beds (about 75) in the Poor Law Hospitals. The City Council makes a grant for certain of these).	
3.—CHILDREN.	
The Children's Hospital (p)	165
Witton Babies' Hospital (c)	50
Carnegie Institute (c)	10
(Also certain beds (about 250) in the Poor Law Hospitals).	
4.—OTHER.	
(a) General Hospitals—	
The General Hospital	399
Jaffray Hospital	56
Homœopathic Hospital	50
Queen's Hospital	224
Dudley Road (Poor Law)	926
Selly Oak (Poor Law)	450
(b) Special Hospitals (exclusive of mental hospitals).	
Women's Hospital (p) and Taylor Memorial Home	135
Eye Hospital (p)	115
Ear and Throat Hospital	51
Orthopædic Hospital	80
Skin and Urinary Hospital	20
Nerve Hospital	37

AMBULANCE FACILITIES.

There is a good and efficient motor ambulance service for all purposes in the City.

- | | | |
|----|--|---------------|
| A. | For acute infectious diseases the Public Health Department have | 4 ambulances. |
| | For Tuberculosis the Public Health Department have | 2 ambulances. |
| B. | For accidents the City Police have | 7 ambulances. |
| | For cases of illness requiring removal to or from hospital or otherwise, the Birmingham County Joint Committee (Order of St. John and British Red Cross Society) at the cost of the patient, or of the Corporation, have | 4 ambulances. |

In addition there are several ambulances attached to hospitals or factories.

CLINICS AND TREATMENT CENTRES.

Maternity and Child Welfare Centres (see page 88)	...	...	...	25
Day nurseries	...	...	...	0
School Clinics (see Report of School Medical Officer)	...	...	...	8
Tuberculosis dispensaries (see page 66)	...	...	...	1
Venereal Diseases, Treatment Centres (see page 78)	...	...	...	3

PUBLIC HEALTH OFFICERS OF THE CITY COUNCIL.

Medical Officer of Health	...	...	...	...	...	...	...	1
Assistant Medical Officers of Health	...	...	...	...	...	...	...	3
Maternity and Child Welfare Medical Officers (whole time)	...	...	...	...	...	...	...	5
Maternity and Child Welfare Medical Officers (part time)	...	...	...	...	...	...	...	21
Hospital and Sanatorium Medical Officers	...	...	...	...	...	...	...	16
Hospital and Sanatorium Nurses	...	...	...	...	...	...	...	273
Domestic Staff	...	...	...	...	...	...	...	216
City Bacteriologist	...	...	...	...	...	...	...	1
Assistant City Bacteriologist	...	...	...	...	...	...	...	1
City Analyst	...	...	...	...	...	...	...	1
Assistant Analysts	...	...	...	...	...	...	...	3
Infant Welfare Visitors	...	...	...	...	...	...	...	77
Tuberculosis Visitors	...	...	...	...	...	...	...	11
General Health Visitors	...	...	...	...	...	...	...	19
Sanitary Inspectors	...	...	...	...	...	...	...	49
Clerks	...	...	...	...	...	...	...	66
Other Officers and Workmen	...	...	...	...	...	...	...	251
Total								1014

PROFESSIONAL NURSING IN THE HOME.

The supply of nurses for general purposes is provided by thirteen district nursing associations. These cover the whole area of Birmingham with the exception of a few outlying sparsely populated areas. These associations provide district nurses and also undertake to nurse any cases of measles, whooping cough or pneumonia which are referred to them by the Public Health Department at a uniform charge of 10/- per case. In any cases of the above diseases coming in the first place to the knowledge of the District Nursing Association a similar fee is paid provided the name and address of the patient is sent to the Public Health Department forthwith. (For better class cases the nurses are obtained from one of the many nursing organisations in the City).

List of District Nursing Societies:—

Society.	Secretary.	Nurses' Home (if any)	Nurse.
Birmingham District Nursing Society	Mr. S. L. Gillman, 48, Summer Hill Road.	Central Home : 48, Summer Hill Road. South Home : 94, Moseley Road. East Home : 306, Washwood Heath Rd.	Matron : Miss E. M. Morris. Matron : Miss F. M. Holt. Nurse in charge : Miss R. Downs.
Aston Manor " "	Mr. R. Everitt, 127, Albert Road, Aston.	127, Albert Road, Aston.	Matron : Miss A. Price.
Erdington " "	Mr. G. E. Hawthorne, 415, Kingsbury Road, Erdington.		Nurse Harris, 1, Edwards Road, Erdington. Nurse Ayton, 18, Avenue Road, Erdington.
Handsworth " "	Mrs. C. A. Cond, 15, Hinstock Road.		Nurse Smith, 10, Broughton Road. Nurse White, 14, Sycamore Road.
Harborne " "	Miss A. B. Appleton, Home Farm, Harborne.		
Selly Oak and Bournbrook " "	Mrs. H. G. Wood, 22, Linden Road, Bournville.		Nurse Ellis, 1022, Pershore Road, Selly Park. Nurse Tracey, 26, Laburnum Road, Bournville.

Society.	Secretary.	Nurses' Home (if any)	Nurse.
Sparkhill & Greet „ „	Mrs. G. A. C. Pettitt, 116, Oxford Rd., Moseley.		Nurse Cranmer and Nurse Butler, Durham Road, Sparkhill.
Acocks Green „ „	Mrs. Wm. Adams, Normanhurst, Victoria Rd., Acocks Green.		Nurse Bishop, 114, Oxford Road, Acocks Green.
Hay Mills and S. Yardley „ „	Miss E. Morrell, 30, Waterloo Road, S. Yardley.		Nurse Hodgetts, 1, Denham Road, Acocks Green.
Kings Heath „ „	Mrs. Hancox, 5, Springfield Road, Kings Heath.		
Kings Norton, Stirchley and Cotteridge „ „	Mrs. J. S. Pritchett, Hill Top, Kings Norton.		Nurse Huband, 25, Watford Road, Kings Norton.
Selly Hill, Dogpool and Ten Acre „ „	Mrs. J. L. Brown, The Limes, Selly Park.		
Stechford „ „	Mr. Walter Henman, 113, Lyttelton Road, Stechford.		

HEALTH VISITORS' WORK.

(REPORT BY MISS BLANCHE GARDINER, B.A., SUPERINTENDENT OF HEALTH VISITORS).

The total number of permanent Health Visitors (General, Tuberculosis, and Infant Welfare) remained fairly constant during the year, and was approximately 98.

Of the 19 General Health Visitors, one left to take up similar work elsewhere, and the vacancy thus created was filled; but two, who were doing half-time general Health-visiting, were asked to do whole-time Infant-visiting, and thus a large outer district was unfortunately deprived of a special Health Visitor.

The number of Tuberculosis Visitors remained as before, 11; a new one replacing the one who left to do over-seas Nursing.

The accompanying table indicates the class and variety of cases investigated by the general Health Visitors, and gives the numbers visited by them during 1927 and the two preceding years:—

PRIMARY VISITS :—					1925.	1926.	1927.
House Inspection	...	...	...	...	1,759	2,130	3,926
Infant Visits (including Stillbirths)	...	...	...	...	1,532	1,697	485
Measles	...	...	...	...	10,087	6,222	7,634
German Measles	...	...	...	...	2,410	1,470	153
Chicken Pox	...	...	...	...	4,975	5,965	4,487
Whooping Cough	...	...	...	...	4,320	3,677	1,962
Mumps	...	...	...	...	5,789	5,569	4,340
Influenza	...	...	...	...	429	292	442
Pneumonia	...	...	...	...	2,309	2,683	2,865
Epidemic Diarrhoea	...	...	...	...	8	1	4
Scabies	...	...	...	...	72	87	75
Impetigo	...	...	...	...	606	638	822
Conjunctivitis	...	...	...	...	43	38	42
Enlarged Glands	...	...	...	...	1,064	1,092	1,303
Bronchitis, Colds, etc.	...	...	...	...	3,357	2,996	2,552
Neglect, Insufficient Clothing, etc.	...	...	...	...	75	77	75
Vermineous Cases	...	...	...	...	70	64	100
Visits to Schools	...	...	...	...	258	227	347
Visits to obtain addresses	...	...	...	...	690	807	716
Visits to Officials, Doctors, etc.	...	...	...	...	345	254	454
Visits to aged persons or on their behalf	...	...	...	...	130	201	250
Visits re Cancer enquiries	...	...	...	...	—	—	348
Visits for special enquiries	...	...	...	...	734	996	944
Visits re Diphtheria Immunisation	...	...	...	...	—	—	5299
Country Holiday Inspections	...	...	...	...	18	4	26
Health Talks	...	...	...	...	6	4	3
Other Visits	...	...	...	...	518	381	560
Total Primary Visits	...	...	...	...	41,604	37,572	40,214
RE-VISITS	...	...	...	...	18,965	20,359	20,270
TOTAL EFFECTIVE VISITS	...	...	...	...	60,569	57,931	60,484
USELESS VISITS (Out, Removed, etc.)	...	...	...	...	5,564	4,978	3,973
GRAND TOTAL	...	...	...	...	66,133	62,909	64,457

SCABIES.

The incidence of Scabies is now very small, as compared with that during, and soon after, the War; the number of cases during the current and two preceding years being respectively 75, 87, 72, as contrasted with 1,327 in the year 1917.

Only 11 tickets were given for free medicated baths at the Skin Hospital.

PNEUMONIA.

Notifications of Pneumonia were again rather more numerous, the Doctors having notified approximately 2,641 cases (as compared with 2,437 and 2,185 in the years 1926 and 1925); and the Health Visitors paid 2,865 primary visits and 4,502 re-visits to these, and to additional cases of Pneumonia reported by the District Nursing Societies, etc.

The first visits are paid on the day of receipt of notification; and the importance of strict compliance with the Doctor's instructions and of the necessity for good nursing is impressed upon the relatives. As a rule the Health Visitors and District Nurses are welcomed.

BIRTHS.

The Health Visitors still have a certain number of visits to pay to infants—chiefly to those in the far outlying districts of the City, most remote from the various Maternity and Infant Welfare Centres.

Though this lessens the amount of walking that would otherwise have to be done by the Infant Visitors, yet it adds considerably to the long distances already covered by the general Health Visitors.

This year they paid 485 primary visits and 2,105 re-visits to infants (including 15 visits and 4 re-visits in connection with still-births).

INFECTIOUS DISEASES.

In connection with the non-notifiable infectious diseases, Measles, German-Measles, Whooping Cough, Chicken-pox and Mumps, 18,576 primary visits and 5,493 re-visits were paid in order to fill in the necessary forms for the Schools for the exclusion of the patient, and certain of the contacts.

Though the Health Visitors do not investigate actual cases of Small-pox, Diphtheria, Scarlet Fever, Enteric Fever, etc., yet when there is an outbreak of any of these diseases they are asked to make special note of any suspects and also sometimes to keep in touch with the contacts.

Visits in connection with these last mentioned illnesses are included either in the 560 "Other visits"; or else in the 944 "SPECIAL ENQUIRIES."

Under this latter heading are also included a few cases of Encephalitis Lethargica, Poliomyelitis, Rheumatism, etc.

During the year, 5,299 visits (and 314 re-visits) were paid to homes in the area of schools where there had been an undue amount of Diphtheria to explain to the parents about the Schick test and the benefits of immunisation against Diphtheria and urging them to have their children thus protected. As a result many children were immunised.

CANCER.

A further enquiry was again made by the Health Visitors (in connection with the Cancer campaign) as to the subsequent history of patients operated upon in the various Birmingham Hospitals (during the years 1910-1921) for Cancer of the Breast, and Uterus, and Colotomy.

THE AGED POOR.

Last year 250 primary visits (as well as 637 re-visits) were paid by the Health Visitors to the aged poor as compared with 201 primary visits in 1926.

THE BLIND.

The Birmingham Royal Institution for the Blind continues to send to the Public Health Department monthly returns of "New cases," "Deaths," "Changes of addresses," and general information re Blind people (i.e., adults and children under school-age).

The unsatisfactory condition of certain homes, already insanitary and overcrowded, is further accentuated, when amongst the occupants are found blind people who, because they cannot see, need all the more, a clean, wholesome, environment.

THE STAFF OF VISITORS.

The Staff of general Health Visitors and Tuberculosis Visitors have all (in their own departments) worked well together, willingly helping one another, when the need arose; as, for example, in the event of epidemics, or other unforeseen work occurring.

The Health of the workers has been well maintained during the current year, as, amongst the general Health Visitors, the longest absence (of about 5 weeks) was due, not to illness, but to an accident; and of the Tuberculosis Visitors, there was only one absence, for as long as 3 weeks; and no sick-leave at all from April to October.

MIDWIVES.

(See page 99).

CHEMICAL WORK.

Particulars of the chemical work done during the year are given in the report of the City Analyst which is published separately.

LEGISLATION IN FORCE.

The following is a list of special Acts and Bye-laws relating to the Public Health in force in Birmingham together with the respective dates at which the provisions became operative:—

GENERAL ADOPTIVE ACTS.

	Dates at which provisions came into operation.
Public Health Amendment Act, 1890 (Part III adopted) ...	9th March, 1891.
Public Health Acts Amendment Act, 1907. Sections 36, 44, 46, 51, 53, 55, 58, 62, 65	1st June, 1916.
Section 64	25th October, 1922.
Section 95	24th February, 1925.
Infectious Disease Prevention Act, 1890	9th March, 1891.
Public Health Act, 1925. Sections 13-15, 17-19, 21-28, 30, 31, 35, 37, 39, 41-51, 53-55	15th March, 1926.

LOCAL ACTS.

The Birmingham Corporation (Consolidation) Act, 1883 ...	1st January, 1884.
The Birmingham Corporation Act, 1903	11th August, 1903.
The Birmingham Corporation Act, 1914	31st July, 1914.
The Birmingham Corporation Act, 1919	15th August, 1919.
The Birmingham Corporation Act, 1922	4th August, 1922.

BYE-LAWS.

Lime Kilns, 1864	1st October, 1864.
Dairies, Cowsheds and Milkshops, 1901	1st April, 1901.
Offensive Trades, 1905	15th June, 1905.
Common Lodging Houses, 1909	1st October, 1909.
Nuisances, 1909	1st October, 1909.
Tents, Vans, etc. (used for human habitation), 1909	1st October, 1909.
Public Slaughter Houses, 1909	26th November, 1909.
Private Slaughter Houses, 1909	26th November, 1909.
Knackers Yards, 1909	26th November, 1909.
Private Slaughter Houses, 1910 (Sunday Slaughter)	15th July, 1910.
Rag, Bone and Skin Merchants, 1909	1st October, 1909.
Good Rule and Government, 1914 (Offensive Offal through streets, Bye-law No. 8)	18th August, 1914.
Underground Rooms, 1915	3rd June, 1915.
House Refuse (Collection), 1921	29th June, 1921.
Houses let in Lodgings, 1922	9th March, 1922.
Covering Meat in transit through Streets, 1923	14th October, 1923.
Maternity Homes, 1927	23rd May, 1927.

III. SANITARY CIRCUMSTANCES.

WATER SUPPLY.

The following tables show the chemical and bacteriological results of the samples of water collected from each of the three levels of supply.

CHEMICAL ANALYSES OF BIRMINGHAM WATERS MADE BY J. F. LIVERSEEGE, F.I.C. (City Analyst).

(PARTS PER 100,000).									
1927	Total Solid Matter	Free Ammonia	Albuminoid or organic Ammonia	Nitrogen in Nitrates	Oxygen consumed in 3 hours at 27° C. (80° F.)	Chlorine in Chlorides	Hardness (as CaCO ₃)	Alkalinity (as CaCO ₃)	Ph.
Jan. H.	5.8	.001	.001	0	.18	0.8	3.1	2.0	7.1
„ M.	5.6	.000	.003	0	.20	0.9	3.0	1.8	6.8
„ L.	6.8	.001	.001	0	.25	0.9	3.0	1.9	6.8
Feb. H.	5.4	.000	.001	0	.18	0.9	3.4	2.1	7.7
„ M.	5.4	.000	.001	0	.20	0.9	3.4	2.1	7.2
„ L.	23.0	.000	.001	.36	.13	2.0	13.2	8.0	7.6
Mar. H.	5.8	.000	.002	0	.18	0.9	3.5	2.2	7.9
„ M.	5.8	.000	.002	0	.18	0.9	3.4	2.2	7.9
„ L.	35.2	.000	.002	.77	.03	2.7	21.0	10.9	7.3
April H.	5.4	.000	.001	0	.11	0.8	3.0	2.0	8.1
„ M.	5.4	.000	.001	0	.10	0.8	3.0	2.1	8.3
„ L.	5.2	.000	.001	0	.09	.09	3.0	2.0	—
May H.	5.6	.000	.002	0	.12	0.9	3.5	2.2	8.3
„ M.	47.0	.000	.001	.87	.02	3.4	32.5	15.7	7.3
„ L.	31.0	.000	.003	.28	.07	2.2	20.6	15.9	7.4
June H.	15.8	.000	.001	.18	.05	1.0	11.4	6.4	7.2
„ M.	5.4	.000	.002	0	.13	0.8	3.1	2.0	9.3
„ L.	31.0	.000	.003	.32	.05	2.2	20.4	14.4	7.9
July H.	5.6	.001	.003	0	.11	0.8	3.1	1.9	8.1
„ M.	5.8	.000	.002	0	.11	0.8	3.1	1.9	8.7
„ L.	5.6	.000	.002	0	.10	0.8	3.1	1.9	8.6
Aug. H.	5.6	.001	.003	0	.15	0.8	3.1	2.0	8.9
„ M.	5.4	.000	.002	0	.15	0.8	3.1	2.0	8.9
„ L.	5.0	.000	.002	0	.15	0.9	3.1	2.0	—
Sept. H.	6.0	.000	.003	0	.26	0.8	3.2	2.4	8.7
„ M.	6.4	.000	.003	0	.27	0.8	3.2	2.4	7.6
„ L.	48.2	.000	.001	.89	.01	3.6	2.9	15.6	7.5
Oct. H.	5.8	.000	.003	0	.29	0.8	3.5	2.2	8.7
„ M.	5.8	.000	.003	0	.28	0.8	3.4	2.3	8.7
„ L.	27.4	.000	.002	.60	.12	2.4	16.4	6.6	7.9
Nov. H.	5.8	.000	.004	0	.30	0.8	3.1	2.2	8.6
„ M.	6.0	.000	.005	0	.30	0.8	3.1	8.5	8.7
„ L.	25.0	.000	.003	.26	.06	2.2	19.0	14.3	7.8
Dec. H.	6.0	.000	.002	0	.19	0.8	3.4	2.3	8.8
„ M.	6.1	.001	.004	0	.19	0.8	3.3	2.1	7.9
„ L.	6.0	.000	.003	0	.21	0.8	3.3	2.0	7.9

H = High Level. M = Middle Level. L = Low Level.

The samples of water were clear when examined in a 2-ft. tube.

BACTERIOLOGICAL EXAMINATION OF WATERS MADE BY DR. H. G. M. HENRY (City Bacteriologist).

				Number of micro-organisms obtained from 1 c.c. of water. On ordinary gelatine 7 days incubation.	B. coli or B. aerogenes.
1927.					
Jan.	H.	...	...	22	Absent in 100 c.c.
	M.	...	...	6	"
	L.	...	...	67	"
Feb.	H.	...	...	40	"
	M.	...	...	35	"
	L.	...	...	198	B. aerogenes present in 100 c.c.
Mar.	H.	{ 23,200 3 days	{		Absent in 100 c.c.
		{ 2,403 2nd Sample	}		
	M.	{ 27,050 3 days	{		"
		{ 2,375 2nd Sample	}		
	L.	...	...	315	B. acidi lactici present in 100 c.c.
April	H.	...	...	137	Absent in 100 c.c.
	M.	...	...	180	"
	L.	...	...	151	"
May	H.	...	...	47	"
	M.	...	...	4	"
	L.	...	...	616	"
June	H.	...	...	256	"
	M.	...	...	36	"
	L.	...	...	62	"
July	H.	...	...	42	"
	M.	...	...	47	"
	L.	...	...	60	"
Aug.	H.	...	...	140	B. acidi lactici present in 100 c.c.
	M.	...	...	96	B. acidi lactici present in 50 c.c.
	L.	...	...	93	B. acidi lactici absent in 100 c.c.
Sept.	H.	...	...	86	"
	M.	...	...	57	"
	L.	...	...	119	"
Oct.	H.	...	...	77	"
	M.	...	...	92	"
	L.	...	...	196	B. aerogenes present in 10? c.c.
Nov.	H.	{ 120 4 days	{		B. aerogenes present in 10 c.c.
		{ 36 2nd sample	}		
	M.	...	...	232	Absent in 100 c.c.
	L.	...	...	101	"
Dec.	H.	...	...	109	B. aerogenes present in 10 c.c.
	M.	...	...	44	B. aerogenes present in 50 c.c.
	L.	...	...	40	B. coli present in 100 c.c.

No outstanding extension of the water supply was carried out during the year, and no action was necessary in respect of any form of contamination.

POLLUTION OF RIVERS AND STREAMS IN THE CITY.

(Statement by Mr. H. H. HUMPHRIES, M.Inst.C.E., City Engineer and Surveyor).

The River Foreman and the men engaged under him keep a daily watch on all outlets into the rivers from manufacturers, private courts, storm sewage overflows, gas works, etc., and any discharges of a polluting nature are immediately reported; the offenders are interviewed and if the complaint is not attended to, notices are served upon the firm.

Samples are periodically taken from various outlets and tested to ascertain the condition of the effluent, and printed notices are regularly served on owners and occupiers of properties abutting on the rivers, calling attention to the discharge of trade waste, slop water, liquid manure, and the throwing of rubbish into the rivers as being an offence, and that such actions are liable to a prosecution and fine.

The reconstruction of a further length of the Hockley Brook from Hockley Hill to near the City boundary is at present proceeding.

SEWERAGE WORKS.

(Statement by Mr. H. H. HUMPHRIES, M.Inst.C.E., City Engineer and Surveyor).

HOCKLEY VALLEY SEWERAGE.

The work of reconstruction (which is now being carried out) of the Hockley Main Sewer when completed will have the effect of reducing the serious flooding which has taken place from time to time in the Handsworth area.

REA VALLEY MAIN SEWERAGE.

The reconstruction of a further length of the Rea Valley Main Sewer from Lifford Lane to Northfield is in progress, the existing 15 inch foul water sewer being replaced by a 66 inch brick and concrete valley sewer. This scheme will have the effect of reducing the pollution of the River Rea which has taken place from time to time in the past, and will also have the effect of opening up for development considerable areas of land which were formerly inadequately sewered.

COLE VALLEY EASTERN OUTFALL SEWER.

The reconstruction of a length of this valley sewer through Tyseley has been proceeding during the past year and is nearing completion.

ACOCKS GREEN WESTERN OUTFALL SEWER.

A considerable length of this sewer, together with the provision of adequate overflow chambers and storm overflow sewer has been reconstructed during the past year, and this work will materially help to reduce the overcharging and flooding which has taken place in part of the Acocks Green area.

GENERAL.

The provision of new sewers in the Spring Lane area of Erdington, Cob Lane and Hay Green Lane, Bournville, Shirley Road and Olton Boulevard, Acocks Green, and the reconstruction of a portion of the Saltley Eastern Outfall Sewer have all been carried out during the past year, and these sewer works will assist in opening up new areas for development.

HOUSING SITES.

Extensive drainage schemes have been carried out on the following Housing Sites:—
Birches Green. Tyseley Farm. Spring Road, Tyseley. Fox Hollies Estate.

SCAVENGING AND REFUSE DISPOSAL.

(Report by Mr. JAMES JACKSON, M.I.C.S., Superintendent of the Salvage Department).

EXTENSION TO LIFFORD WORKS.

In pursuance of the City Council's policy of abolishing the tipping of crude house refuse, the Salvage Department has made considerable progress during the year with the extension to the Lifford Works, and it is hoped that the plant will be finally completed about April, 1928. The Lifford Extensions will be the fourth large scheme to be completed since the adoption of the above policy in 1922. The previous additions to the Department's plant were the erection of new works at Witton and Tyseley and the extension of Montague Street Depot, the total capital expenditure on these schemes to date being £250,000. The following table shews the diminution in the quantity of crude refuse deposited at tips during the five years ended March 31st, 1928:—

Year ended, Mar. 31st.	Refuse treated at depots.	Refuse taken to tips.	*Total refuse dealt with	Percentage tons of refuse tipped.
1924	167,032 tons	83,624 tons	250,656 tons	34%
1925	181,493 "	54,688 "	236,181 "	23%
1926	197,245 "	42,037 "	239,282 "	18%
1927	198,752 "	26,543 "	225,295 "	12%
1928	205,842 "	30,895 "	236,737 "	13%

*Exclusive of Cesspool Contents.

"CONTINUOUS" SYSTEM OF REFUSE COLLECTION.

In January 1927, the Department completed the entire re-organisation of the method of refuse collection, and the "continuous" system is now in operation throughout the City.

In many particulars this system is in advance of anything before attempted as a detailed organisation for the collection of house refuse.

Under this method, the collection of refuse is so organised and elastic in its operation that the frequency of collection can be accelerated or otherwise at the will of the management, and in this City an area calculated to provide sufficient work for one week in summer is allotted to each collecting unit. Within the boundaries of this area or "round" the route of the collecting vehicle is laid down in a continuous line from start to finish. Every house to be visited has its definite place in the working list, and if the men are unable to obtain access for the purpose of removing the refuse a card is left informing the tenant that the men have called and will be round again in one week's time. The driver, under penalty of dismissal, must not deviate from the route laid down, and at the end of each day reports the last address at which he has called to the clerk, who plots out on a progress chart a length of line corresponding to the number of houses visited. With the aid of this chart, which also shews the average weight of refuse per load, the district inspector is able to see exactly where the work is in arrears; to allocate help by spare vehicles, when seasonal and other increases render that necessary; to discover slackness on the part of his staff; and generally to exercise that intelligent supervision which is so essential a part of good management.

A considerable saving is claimed for the continuous system, for, as previously stated, by reason of its elasticity the collection staff can be rapidly expanded or reduced to meet requirements, and the varying quantities of refuse can be handled with efficiency and economy.

The number of justifiable complaints from householders in connection with the non-removal of house refuse since the system was installed has averaged less than two per day.

PROVISION OF SANITARY STORAGE RECEPTACLES.

The installation of standard portable dustbins is proceeding at a satisfactory rate, and the following table shows the progress of the work to date:—

Date	No. of Premises	No. of standard bins		No. of other bins	No. of tubs and other movable receptacles	No. of bin-sheds containing standard bins	No. of Dry Ashpits	No. of Pans	No. of Wet Pits	No. of Dumb wells
		Good	Bad							
Mar., 1928	221,669	190,027	—	782	102	82,868	1,713	412	237	206
Mar., 1927	218,421	177,540	473	990	738	79,298	4,555	420	255	215
Mar., 1926	211,000	161,584	2,519	1,926	3,538	70,913	12,286	422	256	219
Mar., 1925	204,509	142,910	4,211	2,591	5,669	61,822	20,213	429	347	196

During the four years commencing April 1924, the Corporation have provided £6,660 towards the conversion of ashpits to dustbin sheds.

VOLUNTARY DUSTBIN HIRE SCHEME.

The progress of this scheme since its inception in April 1923, has fully justified its introduction, and in anticipation of the continued support of property owners throughout the City, the Department has decided to reduce the annual hiring fee after the first five years, from 1/11 to 1/6 per annum. The following table shews the progress of the scheme to date:—

				BINS.		
Date.				Owners.	capacity. 3½ cu. ft.	capacity. 2½ cu. ft.
Year ended	31/3/24	...	...	940	5,465	
"	31/3/25	...	...	931	6,889	
"	31/3/26	...	...	1,066	8,414	
"	31/3/27	...	...	967	6,911	
"	31/3/28	...	...	745	5,696	786
				4,649	33,375	786

STANDARD TYPE OF DUSTBINS.

The capacity of the dustbin adopted by the City Council for installation throughout the City, is 3½ cubic feet, but as a result of tests which have been carried out, and acting upon the recommendation of the Salvage Committee, the City Council have now sanctioned the use of a bin with a capacity of 2½ cubic feet, to be used at premises where the Department is satisfied that the output of refuse can be conveniently stored in such a capacity.

PLANT FOR TREATMENT OF VEGETABLE REFUSE.

An entirely new plant, the first of its kind in the country is at present being installed at Montague Street depot for the treatment and utilization of vegetable refuse. The disposal of this material has been a source of considerable anxiety to the Salvage Committee for several years past, but it is confidently anticipated that when the new plant is put into operation the whole of the material, amounting to approximately 4,000 tons per annum, will be converted into a saleable manure and disposed of without additional cost to the department and so abolish the objectionable practice of tipping the refuse in a crude state.

SANITARY INSPECTION.

The table below shows the number of visits paid by the general Sanitary Inspectors, and the number of defects found for which notices were served.

			Number of visits paid by inspectors.	Number of defects for which notices were served.
1922	...	...	134,516	86,938
1923	...	...	143,866	104,210
1924	...	...	148,199	123,573
1925	...	...	124,024	104,735
1926	...	...	124,265	108,601
1927	...	...	130,530	119,264

The next table gives fuller details of the character of the work done.

No. of visits and revisits paid:—

General House Inspection	...	...	...	...	...	8,352
Infectious Diseases	...	...	...	...	...	7,750
Nuisances or Complaints	...	...	...	...	...	29,565
Work ordered	...	...	...	...	...	42,965
Work in progress	...	...	...	...	...	18,720
Inspection of Dirty Courts	...	...	...	...	...	3,160
Manure Receptacles	...	...	...	...	...	632
Smoke or Water Tests	...	...	...	...	...	1,050
Tents, Vans and Sheds	...	...	...	...	...	340
Offensive Trades	...	...	...	...	...	63
Ice Cream Vendors	...	...	...	...	...	2,399
Rats Order	...	...	...	...	...	1,788
Calls on Owners or Agents	...	...	...	...	...	4,538
Other Purposes	...	...	...	...	...	9,208
Total	...	...	...	...	...	130,530

Defects, etc., found.

Houses to be disinfected after Scarlet Fever	...	...	...	1,214
" " " Diphtheria	...	...	...	1,846
" " " Typhoid Fever	...	...	...	54
" " " Other Diseases	...	...	...	9
Repairs to Houses	...	...	...	81,357
Houses to be cleansed	...	...	...	6,271
Houses to be provided with better ventilation	...	...	...	164
Houses to be provided with separate water supply	...	...	...	1,604
Cases of overcrowding to be remedied	...	...	...	22
Houses to be provided with Damp Courses	...	...	...	278
Water to be removed from Cellars	...	...	...	376
Spouting to be repaired or disconnected	...	...	...	4,198
Rain Water Cisterns to be disconnected or abolished	...	...	...	128
Ashpit Privies to be converted to Water Closets	...	...	...	9
Pan Privies to be converted to Water Closets	...	...	...	28
Privies and Closets to be limewashed	...	...	...	711
Water Closets to be repaired or reconstructed	...	...	...	3,483
Additional Water Closets to be provided	...	...	...	397
Ashplaces to be repaired or limewashed	...	...	...	101
Soilpipes to be repaired or removed	...	...	...	39
Urinals to be put in order or closed	...	...	...	36
Drains to be relaid or repaired	...	...	...	1,377
Drains to be opened and cleansed	...	...	...	6,392
Gully Traps to be provided	...	...	...	355
Interception Traps to be provided on main drains	...	...	...	24
Premises to be supplied with additional drains	...	...	...	322
Drains in cellars to be disconnected or abolished	...	...	...	27
Sink Bend Pipes to be repaired or affixed	...	...	...	1,124
Sanitary Sinks to be provided	...	...	...	698
Yards to be paved	...	...	...	266
Yards to be repaired	...	...	...	1,167
Courts or Yards to be cleansed by Tenants	...	...	...	104
Houses to be cleansed by Tenants	...	...	...	657
Wash Houses to be repaired or limewashed	...	...	...	2,096
Keeping of fowls to be discontinued	...	...	...	47
Nuisances from swine and swine styes abated	...	...	...	27
Accumulations of rubbish, manure, etc., to be removed	...	...	...	349
Manure receptacles to be provided or repaired	...	...	...	54
Dangerous premises to be reported to City Surveyor's Department	...	...	...	828
Defective Fittings to be reported to Water Department	...	...	...	836
Other Work to be done	...	...	...	189
Total	...	...	...	119,264

In connection with the defects discovered notices were issued as follows:—

Preliminary notices	...	...	...	13,897
Reminders	...	...	...	1,854
Statutory notices	...	...	...	4,672

In 186 cases a summons was issued. In 18 instances, covering 39 summonses, Magistrates' Orders to do the work were obtained. In the remaining 147 cases the work was done without an order.

WATER SUPPLY INSIDE HOUSES.

Under Section 27 of the Birmingham Corporation Act 1914, 781 houses were provided last year with a water supply inside the house. Previously in these houses all the water used had to be fetched from a tap outside and the introduction of a supply inside the house is a great advantage to the occupiers. The total cost of the work involved was £3,797, to which the Corporation as required by the Act, contributed one-third.

COURTYARDS AND WATER CLOSETS.

The two Inspectors who are appointed to visit courtyards and see that the closets and drain traps are in good working order, made 91,279 inspections of water closets. In 60,953 instances the closets were locked up, and in 30,326 they were open. In 118 instances the closet was dirty, in 126 defective, and in 816 it was obstructed.

As stated on the previous page there are now only about 400 pan privies left and these are in outlying situations where it is difficult to provide water closets.

Certain courtyards are cleansed periodically by the staff of Court Cleansers whose work during the year is set out in the following figures :—

Courts cleansed (paid)	...	...	...	...	...	12,162
Courts cleansed (free)	...	...	...	...	...	9,362
Houses stripped	...	...	...	...	...	7
Water closets inspected	...	...	...	...	...	97,823
Water closets opened	...	...	...	...	...	6,732
Water closets cleansed	...	...	...	...	...	61,463
Sheds washed	...	...	...	...	...	30,739
Drain traps cleansed	...	...	...	...	...	152,648
Drains opened	...	...	...	...	...	4,570

ATMOSPHERIC POLLUTION.

Two sets of observations have been made during a number of years :—

A. By two Smoke Inspectors as to the amount of black smoke emitted from factory and other chimneys.

B. By the City Analyst on the impurities found each month in the rainfall.

The latter is done for the Meteorological Office and is comparable with similar observations taken in a number of other towns.

In regard to smoke from factory chimneys, the inspector is required to make an observation for one hour and record the duration of smoke emitted. This is done to carry out the requirements of the Birmingham Corporation (Consolidation) Act of 1883. The following table shows the number of observations made and the number in which excessive emissions were made during each of the of the past four years.

	1927.	1926.	1925.	1924.
Total number of observations	4636	4716	4869	4183
Excessive Smoke—				
From Boiler Fires	105	104	97	80
From Boilers and Furnaces	18	17	18	24
From Metallurgical Furnaces	49	48	93	66
Total number of excessive emissions	172	169	208	170
Number of prosecutions	54	39	86	60
Convictions obtained	54	39	86	60
Total amount of fines	£86 10s.	£86 10s.	£184	£130
Average per case	£1/12/0	£2/4/4	£2/2/9	£2/3/4
Cautions given	113	124	120	78

The observations on the dirt content of the air at three separate sites in the City are fully recorded in the Annual Report of the City Analyst. These observations are important from two points of view. They demonstrate that much has been and still can be done to reduce factory smoke; they also call attention to the damage done in a large city by the shutting out of sunlight by particles in the air.

COMMON LODGING HOUSES.

These houses are under the supervision of an experienced inspector and are generally well kept by the occupiers, having regard to the class of people inhabiting them.

The following statement indicates the scope of the work done in connection with them.

Number of houses on register	...	...	...	32
Number of lodgers allowed	...	...	...	2,091
Number of visits by day	...	...	...	1,264
Number of visits by night	...	...	...	116
Average number of persons found	...	...	...	1,511

HOUSES LET IN LODGINGS.

These lodging houses constitute one of the most serious problems of Public Health administration in the City. For the most part they consist of rooms farmed out by persons who attempt to make a living by hiring poor-class property, furnishing the rooms in a very inefficient way and letting these furnished rooms at what appear to be exorbitant rents to persons who are either thriftless or very unfortunate.

For the most part these unsuitable houses are let in single rooms at prices which vary from 7/6 to 15/- or more per week per room. Some of these rooms are attics with inadequate light. None of them has sufficient water supply.

During 1927 one inspector devoted his whole time to their supervision. In April 1928, the Public Health Committee revised the arrangements for supervision, allocating the work to the district sanitary inspectors, under the general supervision of the Chief Sanitary Inspector. Particulars of the revised arrangements will be given in detail in the next report.

The following tabular statement indicates the number of houses on the register and the inspections made.

Number of houses on register	...	...	...	...	...	...	688
Number of rooms let as single rooms	...	...	...	...	...	...	1,503
Number let two or more rooms together	...	...	...	...	...	...	667
Certified accommodation	...	...	...	...	...	...	7,014 persons
Number of visits to the 688 houses	...	...	...	...	...	...	3,624
Notices for repairs	...	...	...	...	...	...	33
„ „ overcrowding	...	...	...	...	...	...	14
„ „ cleansing	...	...	...	...	...	...	577
„ „ provision for cooking	...	...	...	...	...	...	132
„ „ fire extinguishers	...	...	...	...	...	...	230
„ „ lighting on stairs	...	...	...	...	...	...	98
„ „ repairs to bedding	...	...	...	...	...	...	5

CANAL BOATS.

The following is a copy of the annual report required to be made under the Canal Boats Act :

THE COUNCIL HOUSE,
BIRMINGHAM,
January 5th, 1928.

GENTLEMEN,

In compliance with Section 3 of the Canal Boats Act, 1884, I beg to submit the annual report of the work done by this Department during the year 1927, under the Canal Boats Acts, 1877 and 1884, and the regulations under these Acts.

The Canal Boats Inspector for the City is Inspector W. G. E. Childs, who combines with this work the duties of Inspector of Common Lodging Houses. His salary for the joint appointment is 65/- per week and bonus, with uniform and allowance for cycle.

INSPECTION OF BOATS.

During the year 1927 the number of boats inspected on the canals within the City area was 986, and the number of inspections during each quarter is shown as follows :—

During the first quarter of the year 320 boats were examined.					
„	second	„	„	299	„
„	third	„	„	215	„
„	fourth	„	„	152	„
Total				986	

The 986 boats inspected were registered for the accommodation of 3,165 persons and when inspected were found to be carrying 1,087 men, 808 women, and 856 children, a total of 2,751 persons, represented in terms of adults as 2,323.

The following table shows the number of boats inspected during the last five years, giving the number of persons whom the boats were registered to accommodate and the actual number of occupants at the time of inspection.

Year.	No. of boats inspected.	Registered to carry (adults).	Actually occupied by			Total occupying.	Equivalent to adults.
			Men.	Women.	Children.		
1923	...	1,107	3,730	1,396	878	960	3,234
1924	...	1,127	3,590	1,358	833	872	3,063
1925	...	1,150	3,712½	1,414	816	798	3,028
1926	...	1,081	3,464	1,216	797	888	2,901
1927	...	986	3,165	1,087	808	856	2,751

Of the 986 boats inspected during the year it was found that 874 or 89 per cent. were in good condition and conforming with the Acts and Regulations, while in 112 or 11 per cent. of the total, various contraventions were found. These are classified thus:—

Boats with one contravention each	38	making total contraventions	38
" " two " "	46	" " "	92
" " three " "	9	" " "	27
" " four " "	19	" " "	76
Totals ...	112		233

Complaint notes were duly served on the owners in all cases.

During the year certificates were returned by owners signed by various Canal Boat Inspectors, showing that 257 complaints had been remedied.

The following table shows the number and character of contraventions found and remedied during the year:—

Contraventions referring to	Outstanding and brought forward from 1926.	Found during 1927.	Remedied during 1927.	Carried forward to 1928.
Cabins requiring painting	34	77	93	18
" " repairs	8	42	43	7
Requiring marking	12	60	59	13
Cabins leaking	11	34	39	6
Registrations	2	6	8	—
Not producing certificates	1	1	2	—
Dirty Cabins	—	1	1	—
Overcrowding	—	5	5	—
Separation of sexes	—	7	6	1
Water vessels	1	—	1	—
Pumps	—	—	—	—
Totals ...	69	233	257	45

It has not been necessary during the year to take any court proceedings under the above Acts or the Canal Boat Amendment Regulations, 1925.

INFECTIOUS DISEASES.

On July 9th, a case of Pulmonary Tuberculosis was removed from the boat "Laurel," Registered Number 1304, Birmingham. The patient was removed to Yardley Road Sanatorium, on July 11th. A letter was sent on July 13th to the owners asking them thoroughly to cleanse the cabin and the bedclothes, and this was duly carried out.

REGISTRATION OF BOATS.

There were 3 boats registered during 1927 in Birmingham. Four registrations were cancelled, thus leaving a total of 550 boats on the Birmingham Register on December 31st, 1927.

The registrations were as follows:—

New motor-boats registered	...	...	...	...	1
New Ordinary boats registered	...	...	...	...	2
New steam boats registered	...	...	...	...	—
					3
Registration cancelled	...	...	...	...	4
Decrease	...	...	...	...	1

The number of boats on the Birmingham Register for the last five years has been as follows:—

December 31st, 1923, Boats on Register	...	...	526
" 1924	...	...	534
" 1925	...	...	537
" 1926	...	...	551
" 1927	...	...	550

The 550 boats on the register at present are classified as follows:—

Ordinary boats	...	...	...	...	479
Steam Boats	...	...	...	...	7
Motor Boats	...	...	...	...	64
Total					550

I am, Gentlemen,

Your obedient servant,

G. K. BOWES, M.A., M.D., D.P.H.
Assistant Medical Officer of Health.

FACTORIES AND WORKSHOPS.

Three inspectors (two men and one woman) are engaged in seeing that the requirements of the Factory and Workshop Acts are carried out so far as these relate to the supervision by the local authority.

I. INSPECTION OF FACTORIES, WORKSHOPS AND WORKPLACES.

Premises. (1)	Number of		
	Inspections. (2)	Written Notices. (3)	Occupiers Prosecuted. (4)
Factories (including Factory Laundries) ...	1,086	77	—
Workshops (including Workshop Laundries) ...	5,321	119	—
Workplaces (other than Outworkers' premises)	373	38	—
Re-Visits	3,362	—	—
Total	10,142	234	—

II. DEFECTS FOUND IN FACTORIES, WORKSHOPS AND WORKPLACES.

Particulars. (1)	Number of Defects.			Number of offences in respect to which Prosecutions were instituted (5)
	Found. (2)	Remedied. (3)	Referred to H.M. Inspector. (4)	
Nuisances under the Public Health Acts :—*				
Want of cleanliness	1,487	1,480		
Want of ventilation	35	35		
Overcrowding	1	1		
Want of drainage of floors	3	3		
Other nuisances	568	564		
Sanitary accommodation :				
Insufficient	58	57		
Unsuitable or defective	840	837		
Not separate for sexes	36	35		
Offences under the Factory and Workshop Acts :				
Illegal occupation of underground bakehouses (s. 101)	1	1		
Other offences	—	—		
(Excluding offences relating to outwork and offences under the Sections mentioned in the Schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921)				
Total	3,029	3,013	—	—

*Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

No prosecutions were instituted for failing to send in lists of outworkers.

No cases of outwork being done in unwholesome premises were discovered.

SHOPS ACTS.

The total number of shops observed and visited during 1927 was as follows :—

Shops observed without entering	...	...	...	...	...	22,420
Systematic visits to shops	...	...	...	...	...	1,490
Re-visits	...	...	...	...	...	1,156
Special visits	...	...	...	...	...	711
Special night observations by temporary inspectors	...	...	...	...	...	140

Infringements found :—

Early closing notice not exhibited	...	...	...	...	...	146
Not closing shop to time	...	...	...	...	...	185
Exempted trade notice not exhibited	...	...	...	...	...	172
Young persons' notice not exhibited	...	...	...	...	...	21
Assistants' half-holiday not exhibited	...	...	...	...	...	68
Assistants' meal times not exhibited	...	...	...	...	...	5
Change of early closing day not notified	...	...	...	...	...	70
Not providing seats for female assistants	...	...	...	...	...	11
Not providing sanitary conveniences	...	...	...	...	...	6

Prosecutions	73
--------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	----

(a) *Butchers' Closing Order.*

- 1 case fined £7.
- 1 case fined £5.
- 2 cases fined £3 each.
- 2 cases fined £2 each.
- 6 cases fined £1 each.
- 4 cases fined 10/- each.

(b) *Shops Act, 1920.*

- 6 cases fined £1 each.
- 24 cases fined 10/- each.
- 19 cases fined 5/- each.
- 2 cases withdrawn.
- 1 case dismissed.
- 1 case summons not served.

(c) *Shops Act (1912).*

- 1 case fined £2.
- 2 cases fined £1 each.
- 1 case fined 10/-.

SCHOOLS.

Under the Birmingham Corporation Act, 1914, parents of children attending school are required to notify the Head Teacher whenever a case of infectious disease occurs in the family. All such notifications are forwarded to the Medical Officer of Health by the Head Teacher, and the house is immediately visited by a health visitor and instructions are given verbally as to exclusion from school. On the following day a written exclusion notice is sent both to the Head Teacher and to the Attendance Officer (see Health Visitors' Work, page 23).

In the cases of scarlet fever and diphtheria an exclusion notice is issued after a visit by the sanitary inspector, and a re-admission notice is also sent when it is considered safe to resume attendance.

Full particulars as to the health of school children are given in the Annual Report of the School Medical Officer.

IV. HOUSING IN 1927.

The total number of new houses built in the City and certified as fit for habitation was 6,452, of which number 4,007 were built by the Municipality and 2,445 by private enterprise.

The following table shows the number built during each year since 1920 :—

			No. of houses erected by private enterprise.	Corporation houses.	Total.
1920	...	...	244	407	651
1921	...	...	426	970	1,396
1922	...	...	382	902	1,284
1923	...	...	556	1,508	2,064
1924	...	...	1,201	1,663	2,864
1925	...	...	1,774	3,066	4,840
1926	...	...	1,775	5,159	6,934
1927	...	...	2,445	4,007	6,452
Total			8,803	17,682	26,485

The wards in which new houses have been built since 1920 are indicated below :—

	Ward.	Houses erected by private enterprise.	Corporation Houses.	Total.
Central Wards.	St. Paul's	2	—	2
	St. Mary's	4	—	4
	Duddeston and Nechells ...	—	—	—
	St. Bartholomew's	1	458	459
	St. Martin's and Deritend ...	—	—	—
	Market Hall	—	—	—
	Ladywood	—	—	—
	Total Central Wards	7	458	465
Middle Ring.	Lozells	5	—	5
	Aston	14	4	18
	Washwood Heath	223	1775	1998
	Saltley	29	1364	1393
	Small Heath	32	1080	1112
	Sparkbrook	2	—	2
	Balsall Heath	8	—	8
	Edgbaston	384	—	384
	Rotton Park	91	—	91
	All Saints'	20	—	20
	Total Middle Ring	808	4223	5031
Outer Ring.	Soho	89	—	89
	Sandwell	203	273	476
	Handsworth	429	110	539
	Erdington North	806	3358	4164
	Erdington South	339	624	963
	Yardley	572	2123	2695
	Acocks Green	896	1821	2717
	Sparkhill	1616	2358	3974
	Moseley and Kings Heath ...	820	1557	2377
	Selly Oak	353	109	462
	King's Norton	243	450	693
	Northfield	1067	284	1351
	Harborne	446	43	489
	Total Outer Ring	7879	13110	20989
Grand Total		8694	17791	26485

V. INSPECTION AND SUPERVISION OF FOOD.

THE MILK SUPPLY.

The whole of the Birmingham milk supply, with the exception of a small amount produced from farms in the outlying parts of the City, comes from farms outside the City boundary, situated for the most part within an area of 50 miles radius. By far the greater part of the milk is delivered once daily, only a small proportion being sent in twice daily. About 75 per cent. is at the present time road-borne, the remainder coming by rail.

BACTERIOLOGICAL EXAMINATION OF MILK.

494 samples of raw milk, and 980 of pasteurised milk were taken and submitted for examination. The number of bacteria per cubic centimetre of milk was as follows :—

BIRMINGHAM PASTEURISERS, 1927.

Positive Holder Process.

No. of the Pasteuriser.	RAW MILK.	Average Bacteria.	No. of Samples.	PASTEURISED MILK.
	No. of Samples.			Average Bacteria.
1.	9	366,461	65	1,219
2.	38	257,934	82	7,782
3.	22	19,261	54	10,129
4.	20	150,999	43	1,380
5.	22	385,400	38	4,908
6.	38	202,196	75	45,905
7.	15	256,255	24	133,857
8.	46	92,835	64	20,227
9.	17	273,374	74	16,009
10.	7	1,984	43	660
11.	25	310,856	33	27,011
12.	27	52,062	16	31,270
13.	33	203,277	58	20,277
*14.	10	54,236	13	493

Continuous Flow Retarding Process.

15.	32	432,359	60	11,993
16.	17	324,495	40	5,327
17.	32	299,910	53	11,629

Flash Point Process.

18.	5	25,472	3	51,266
19.	5	235,160	53	11,107
20.	11	20,926	2	57,650
21.	3	100,700	14	13,576
22.	2	19,200	2	1,890
23.	15	278,728	29	8,402
24.	12	19,111	4	420
25.	6	29,393	—	—
26.	2	27,750	4	172,095
27.	4	21,360	4	472
*14.	19	632,737	30	6,765

*Changed over to positive holder process in November.

Setting aside the results of the examinations of samples treated by the flash point process, which is admittedly unreliable, the figures from Pasteurisation plants where the positive holder process is used indicate that in some cases the process is not properly carried out. There can, however, be little doubt that, in other cases, the system of frequent bacterial counts, of the results of which the dairyman is informed, has enabled many pasteurisers to control the method and obtain better results. Where the figures indicate some possible defect, either in the plant or in its method of working, visits are paid by one of the assistant medical officers in order to try to discover the cause of the unsatisfactory results. The most usual defect found has been a failure to cleanse and efficiently sterilise the plant.

It may be said that, where reasonably clean milk is obtained from farmers, and where effective care and supervision of the processes carried on in the dairy are maintained, the bacteriological examination of samples of Pasteurised milk should yield results which, taken over a yearly average, are well below 10,000 bacteria per c.c.

MILK (SPECIAL DESIGNATIONS) ORDER, 1923.

The following licences were granted during 1927 :—

1.	Producer's licence to sell Certified Milk, granted by the Ministry of Health to Messrs. A. J. Follows and Son, Metchley Park, Harborne	...	...	...	...	...	...	1
2.	Producer's licence to sell Grade A (Tuberculin Tested) Milk, granted by the Ministry of Health to the Midland Counties Dairy, Ltd., Corporation Street	...	...	...	...	...	...	1
3.	Dealer's licence to sell Certified Milk granted to :— Messrs. Wathes, Cattell and Gurden, Monument Road. David M. Dargie, Station Road, Stechford. H. P. Foster, Wholesome Supplies, 14, New Street. Messrs. Arundel and Son, Bristol Street and 289, Alcester Road South. A. H. Johnson, Overdale Dairy, Redditch Road, Northfield. H. C. Sidebotham, 95, Ash Road, Saltley	...	...	...	...	...	...	6
4.	Dealer's Licence to sell Grade A (Tuberculin Tested) Milk. Messrs. The Midland Counties Dairy, Ltd., Corporation Street. Mr. E. D. Ede, King's Heath Model Dairy, Pershore Road	...	...	...	...	...	...	2
5.	Dealer's Licence to sell Grade A Milk. The Handsworth Dairy Co., Island Road, Handsworth. Messrs. Wathes, Cattell and Gurden, Monument Road.	...	...	...	...	...	...	2
6.	Licence to sell Pasteurised Milk. (a) Pasteurisers' Licences :— Messrs. The Midland Counties Dairy Co., Corporation Street. Messrs. Wathes, Cattell and Gurden, Ltd., Monument Road. Messrs. The Birmingham Co-Operative Society, Ltd., Vauxhall Road. Messrs. A. J. Follows and Son, Metchley Park, Harborne. Mr. E. Denzil Ede, King's Heath Model Dairy, Pershore Road. Messrs. Fowler Bros., Showell Green Lane, Sparkhill. Messrs. R. Martin and Co., Ltd., Weatheroak Road, Sparkhill. Messrs. Thos. Shaw and Sons, Burbury Street. Mr. F. V. Billingsley, Shaftmoor Lane, Hall Green. Mr. H. Marsden, Heathfield Road, Handsworth. The Ten Acres and Stirchley Co-Operative Society, Umberslade Road, Stirchley. Messrs. J. Holt and Son, Cowper Street	...	...	...	...	...	...	12
	(b) Dealer's Licences	...	...	...	...	...	...	56
	(c) Supplementary Licences. Messrs. Bray and Bailey, Smethwick. Messrs. E. Lea and Son, Dove House Farm, Solihull	...	...	...	...	...	...	2

The amount of specially designated milk sold daily in April, 1928, is shewn in the following table and compared with the figures in the previous year. Compared to the total milk supply the amount sold is still small, but shows a definite increase on the amount sold in the previous year.

	April, 1927.	April, 1928.
Certified	135 gallons	135 gallons
Grade " A " (Tuberculin Tested) ...	95 "	269 "
Grade " A " (including in 1927 Grade " A " Pasteurised)	44 "	364 "

The present prices of these grades of milk are as follows:—

Certified	... ..	4½d.
Grade "A" (Tuberculin Tested)	... ..	4½d.
Grade "A"	... ..	4d.

As stated above there are now fourteen firms who have installed efficient modern Pasteurising plant. All but two of these hold a licence to use the designation "Pasteurised." This licence is only granted after the premises and plant have been inspected and found to be satisfactory. In actual fact the firms holding the licence do not make full use of this, and only a small proportion of the milk treated by them is bottled and sold in bottles labelled as "Pasteurised." A large proportion is bottled and sold without the official label, but in all other respects agrees with the conditions laid down in the order of the Ministry of Health; while the remainder of the treated milk is sold loose, a method of sale which, of course, does not comply with the official standard for Pasteurised milk.

REGISTRATION AND INSPECTION OF MILKSHOPS.

Two Inspectors are wholly employed in visiting the milk shops, purveyors, depôts and railway stations in order to see that reasonable conditions are maintained in handling milk. They also look after the numerous alterations in registration. Their work is indicated by the statement below.

No. of Milkshops on Register	... ..	3,642
No. of Wholesale Purveyors on Register	... ..	86
No. of Retail Purveyors on Register	... ..	830
New milkshops registered	... ..	61
New Wholesale Purveyors registered	... ..	45
New Retail Purveyors registered	... ..	126
Milkshop transfers	... ..	324
No. of visits to Milkshops	... ..	4,312
No. of visits to Wholesale Purveyors	... ..	392
No. of visits to Retail Purveyors	... ..	1,629
No. of visits to Railway Stations	... ..	102
Milk vessels examined at Milkshops	... ..	8,870
Milk churns examined at stations	... ..	1,890
Milkshops and Stores limewashed	... ..	10
Sanitary defects found	... ..	8
Other contraventions	... ..	9
Cases of infectious disease reported	... ..	34
Milkshops registrations cancelled	... ..	266
Wholesale Purveyors' registrations cancelled	... ..	5
Retail Purveyors' registrations cancelled	... ..	83

MILK AND DAIRIES ORDER, 1926.

During the year a good deal of additional work was undertaken by the inspectors concerned in order to ensure that the new provisions contained in this Order were being consistently carried out.

All matters relating to the actual keeping of cows and cowsheds are under the control of the Veterinary Superintendent, but the responsibility for supervising the dairying arrangements at farms rests with the milk inspectors of this Department. Many farms were found to be unprovided with any proper arrangements for the storage of vessels and the clean handling and cooling of milk after milking, but with one or two exceptions all have now been brought into conformity with the Order. As these farms are situated in the outlying parts of the City a good deal of time has been spent on special journeys. The work done in most cases has consisted in the provision, either by utilisation of a pre-existing structure or by new erection, of an adequate dairy for the storage of milk and milk vessels and the proper cooling of milk.

Systematic visits to the stations and inspections of churns on lorries revealed the fact that many churns were being returned by dairymen imperfectly washed containing milky water often in a foul condition. Letters to the dairymen have caused considerable improvement, and now the condition of churns is fairly satisfactory. No churn can be regarded as really properly cleansed until it is clean and dry. Moisture in a churn allows the multiplication of germs. In many cases there is still not enough care taken to ensure that churns are properly dried after cleansing and steaming.

PROSECUTIONS.

Four prosecutions were undertaken during the year. In the first case a dairyman was prosecuted for advertising the sale of Grade "A" Milk without possessing a licence under the Milk Special Designation Order, 1923. He was convicted and fined £2.

In the second case a purveyor of milk was prosecuted for opening a bottle of sterilised milk and selling part of the contents loose, contrary to the provisions of Section 31, sub-section 2, of the Milk and Dairies Order, 1926. The magistrates convicted and imposed a fine of 10/-.

In the third case a purveyor was prosecuted for filling and capping milk bottles in the road, in contravention of the same sub-section of the Order. The magistrates dismissed the case, as unsupported by sufficient evidence.

In the fourth case a purveyor was prosecuted for keeping milk in an unregistered place without giving a month's notice of his intention to use such place, contrary to Section 7 of the Order, and for other contraventions of the Order owing to the generally filthy and unsatisfactory nature of the premises. He was convicted and fined £5 on all counts.

INSPECTION OF COWS AND COWSHEDS IN THE CITY.

(REPORT BY MR. BRENNAN DEVINE, F.R.C.V.S., VETERINARY SUPERINTENDENT).

The systematic inspection of cowsheds and cattle in City Dairies which are now registered under the Milk and Dairies Order 1926, was carried out during the year by the Veterinary Staff.

The following table shows the number of registered sheds, the number of visits paid by the Veterinary Inspectors to City Dairies, and the number of cows in City Dairies at 31st December, 1927, as compared with the previous year:—

					Dairy Farms.	Cow Sheds.	Dairy Cows.	Visits to sheds.
31st December, 1927	...	...	...	...	112	234	1,531	2,793
31st December, 1926	...	...	...	...	117	240	1,558	2,909

Cows.

The health, condition, and cleanliness of the cows inspected has been good, and in only three cases was it found necessary to write to the owners calling attention to the insanitary condition of their cows.

Mastitis. Twenty-one cows were found to be affected with acute catarrhal mastitis. In each case the owners were notified that the milk from these cows should not be sold for human consumption, and where possible the animals were kept isolated from the rest of the herd.

Tuberculosis. 20 suspected cases of tuberculosis were dealt with and in 12 cases tuberculosis was confirmed.

Foot and Mouth Disease. Owing to the spread of Foot and Mouth Disease throughout the country and to an outbreak occurring in the City area on December 10th, and subsequent outbreaks in City Dairies, it was deemed advisable to temporarily discontinue the regular veterinary inspection of City Dairies until the restrictions were withdrawn. Birmingham was still included in an Infected Area on the 31st December.

Following outbreaks in the City Meat Market and at Montague Street Pig Market, other outbreaks occurred in City Dairies as follows:—

Date.	Farms.	No. of Animals Destroyed.
1927.		
Dec. 12th.	Lindsworth Farm, Kings Norton	5 pigs, 31 cows, 3 calves.
„ 21st.	Weoley Bank Farm, Selly Oak	19 pigs, 17 cows.
„ 24th.	Stonehouse Farm, Stonehouse Lane, Northfield	1 bull, 20 cows.
„ 28th.	Weymoor Farm, Harborne	35 cattle.

The whole of the affected and in-contact animals were slaughtered and the carcasses destroyed, compensation being paid in each case by the Ministry of Agriculture.

Owing to the prohibiting of Store Markets in Infected and Controlled Areas, farmers, in a number of cases, found it difficult to keep up their milk supplies owing to their inability to buy in new milch cows.

COWSHEDS.

These have been regularly inspected, special attention being paid to adequate lighting, ventilation, including air space; and the cleansing, drainage, and water supply.

In four cases it was found necessary to write to the Cow-keepers requesting them to more thoroughly clean their sheds.

The limewashing of all the cow-sheds was carried out during the summer months while the cows were out at grass.

Of the 234 sheds on the register, 232 have been given registration numbers and the other 2 are being altered to meet our requirements prior to registration. During the year six other buildings have been converted into cowsheds and three sheds have been repaired according to instructions.

New Cowkeepers. 3 applications were received from dairymen to commence keeping cows in the City for the sale of milk. In one case the shed had been registered previously and was in a good state of repair, and in the other two cases the sheds have been altered to make them suitable for registration. The applicants names have been placed on the register.

Dairies Discontinued. 8 dairymen have discontinued keeping cows, and their names have been removed from the register.

Changes of Occupancy. In one case the farm has changed hands, and the register has been rectified accordingly.

TUBERCULOSIS AND THE MILK SUPPLY.

(REPORT BY MR. BRENNAN DEVINE, F.R.C.V.S., VETERINARY SUPERINTENDENT).

The precautions to reduce the amount of tubercle infection in the milk sold in the City have been continued on similar lines as in previous years, namely :—

- (a) The detection of infection in the milk supply both from city dairies and outside sources.
- (b) The eradication of tuberculosis from dairy herds supplying milk to Birmingham.

(a) THE DETECTION OF INFECTION IN THE MILK SUPPLY BOTH FROM CITY DAIRIES AND OUTSIDE SOURCES.

Section 8 of the Milk and Dairies (Consolidation) Act, empowers Local Authorities to take samples of Milk. In this connection and with a view to the prevention of tuberculosis caused by the consumption of any milk sold, or kept for sale, within the City area, and in order to ascertain the source of any infected milk supplies, 899 mixed samples of milk were taken at City Dairies and from supplies sent to Birmingham Depots from outside sources, as follows :—

Source.	Mixed Samples.	Result of Examination		Percentage Infected.
		Free.	Infected.	
City Dairies	64	60	4	6.2
Gloucestershire	53	49	4	7.5
Shropshire	83	71	12	14.5
Staffordshire	291	271	20	6.9
Warwickshire	270	255	15	5.6
Worcestershire	117	111	6	6.1
Various	21	18	3	14.3
Year ended 31st Dec., 1927	899	835	64	7.1
Year ended 31st Dec., 1926	811	740	71	8.8

In connection with the four infected samples from City Dairies, the four cows were found affected with tuberculosis and were slaughtered under the Tuberculosis Order.

In order to eradicate the infection as shown by the 60 infected samples of milk from outside sources, notification was sent in each case to the Medical Officer of Health of the county in which the Dairies from which the infected milk came were situated. On receipt by us of the notice of the inspection of each of the herds, arrangements were made for one of the City's Veterinary Inspectors to be present. As a result of the subsequent action in each case, which involved 76 visits to farms and the examination of 1,799 cows, 58 cows affected with tuberculosis were traced and slaughtered under the Tuberculosis Order, 1925.

TUBERCULOSIS ORDER, 1925.

This Order provides for the notification by the owner of cattle affected with Tuberculosis and for the payment of compensation in respect of tuberculous cows slaughtered.

12 cows in City Dairies were found affected with Tuberculosis and were dealt with under the Order. In each case the diagnosis of tuberculosis was confirmed as under :—

(a) Tuberculosis of the udder	...	...	...	...	...	8 cows
(b) Tuberculous emaciation	...	...	...	...	...	1 "
(c) Chronic cough and definite clinical signs	...	...	...	...	...	3 "
						<hr/> 12 "

(b) THE ERADICATION OF TUBERCULOSIS FROM DAIRY HERDS SUPPLYING MILK TO BIRMINGHAM.

In order to minimise the risk of tuberculous infection in the City's milk supply, the above scheme provides for the free tuberculin testing by the Veterinary Staff of the herds of any owners supplying milk to the City, and who are willing to comply with the conditions necessary to make the scheme a success.

At the beginning of the year there were 22 herds comprising 696 cows in this scheme. During the year four new herds were submitted for testing, two of which were withdrawn after the result of the first test was ascertained. Three herds in the Scheme in 1926, were withdrawn during the year, owing to a high percentage of reactors.

21 herds comprising 713 cows were continuing in the scheme on 31st December; of these, 8 are tested for Grade "A" (Tuberculin Tested) Milk.

The following is a list of herds dealt with under the Scheme :—

No.	Approx. No. in Herd	Herds free	Herds being freed	Grade A milk	Breeding Herds	Non-Breeding Herds	Mixed Herds	City Dairies	Outside Dairies
1	90	1	—	1	1	—	—	1	—
2	16	1	—	—	—	1	—	1	—
3	46	1	—	—	—	—	1	—	1
4	60	1	—	1	1	—	—	—	1
5				Discontinued					
6	24	1	—	1	1	—	—	—	1
7	41	1	—	—	—	—	1	—	1
8	9	1	—	—	1	—	—	1	—
9	23	1	—	—	1	—	—	—	1
10	16	1	—	—	1	—	—	—	1
11	25	1	—	1	1	—	—	—	1
12	5	1	—	—	1	—	—	—	1
13	18	1	—	—	—	—	1	1	—
14	22	1	—	—	1	—	—	—	1
15	15	1	—	—	1	—	—	—	1
16	100	1	—	—	1	—	—	1	—
17	35	1	—	—	1	—	—	—	1
18	48	1	—	1	1	—	—	—	1
19	15	1	—	1	1	—	—	—	1
20				Discontinued					
21	18	1	—	1	—	1	—	—	1
22				Discontinued					
23				Discontinued					
24	31	—	1	—	1	—	—	—	1
25	56	—	1	1	1	—	—	—	1
26				Discontinued					
Total	713	19	2	8	16	2	3	5	16

COW TESTING.

The testing of the herds which come under the scheme has been carried out half-yearly :—

No.	Cows Tested.	Passed.	Failed.	Doubtful.
1	284	280	4	—
2	38	31	7	—
3	127	99	22	6
4	177	151	26	—
5	103	64	32	7
6	58	58	—	—
7	99	50	49	—
8	23	17	6	—
9	52	48	4	—
10	33	28	5	—
11	64	58	6	—
12	10	10	—	—
13	37	31	6	—
14	42	39	3	—
15	34	22	12	—
16	194	178	16	—
17	74	56	15	3
18	113	101	12	—
19	29	29	—	—
20	46	20	19	7
21	21	19	2	—
22	14	2	10	2
23	11	6	5	—
24	124	90	34	—
25	56	17	39	—
26	48	9	39	—
Totals	1911	1513	373	25
Percentage		79.2	19.5	1.3

SUMMARY.

Dairy farms in the City	...	...	...	...	112
Milking Cows	...	...	...	...	1,531
Visits to Sheds during 1927	...	...	...	...	2,793
Cows in City Dairies affected with Mastitis	...	...	...	...	21
Cows in City Dairies affected with Tuberculosis	...	...	...	...	12
Samples of mixed Milk taken	...	...	...	...	899
Samples of mixed Milk taken found to be infected	...	...	...	...	64
Visits to Outside Farms during 1927	...	...	...	...	76
Herds Tested (including Grade "A")	...	...	...	...	26
Cows tested	...	...	...	...	1,911
Cows which passed the test	...	...	...	...	1,513
Cows which failed to pass the test	...	...	...	...	398

INSPECTION OF MEAT AND OTHER FOODS.

(REPORT BY MR. BRENNAN DEVINE, F.R.C.V.S., VETERINARY SUPERINTENDENT).

For the purposes of inspection the City is divided into four districts, a Food Inspector being placed in charge of each district. The inspection work in the Public Abattoirs and the Wholesale Fish and Vegetable Markets is carried out by Inspectors who are constantly employed there.

SLAUGHTERHOUSES.

All the private slaughterhouses in the City have been regularly visited and during the year 6,626 visits of inspection were made.

Changes of Occupancy. 5 applications for change of occupancy of private slaughterhouses were submitted to the Markets and Fairs Committee. In each case the premises were inspected, and as they were found in a sanitary condition the applications were in each case acceded to.

Register. At the 31st December, 1927, there were 103 private slaughterhouses and two knackeries in use.

Registered Slaughterhouses	...	...	...	...	...	52
Annually licenced slaughterhouses	...	...	...	...	...	51
Knackeries	...	...	...	...	...	2
						<hr/> 105 <hr/>

REGISTERED FOOD PREPARATION PREMISES.

Section 33 of the Birmingham Corporation Act, 1914, provides that:—

- (1) Any premises used or proposed to be used for the preparation or manufacture of potted or preserved meat, fish, or other food, intended for the purpose of sale shall be registered by the owner or occupier thereof with the Corporation from time to time, and no premises shall be used for the purposes aforesaid unless the same are registered as aforesaid.

The following is a summary of the Food Preparation Premises registered at 31st December, 1927:—

	No. in City.
A-la-mode Beef	101
Sausage Manufacturers	37
Pork Pie Manufacturers	45
Tripe Dressers	44
Potted and Cooked Meat Manufacturers	133
Ham Manufacturers	6
Jam Manufacturers	1
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31st December, 1927	367
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31st December, 1926	379
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VISITS OF INSPECTION.

During the year 75,411 visits of inspection were paid by the Inspectors as compared with 81,294 visits in 1926, namely:—

	Visits of Inspection.	
	1927.	1926.
Slaughterhouses	6,626	6,906
Beef Butchers	16,377	18,617
Pork Butchers	5,820	6,670
Fishmongers	5,770	7,142
Fruiterers	7,808	9,237
Provision Dealers	1,172	609
Ham and Bacon Dressers	804	725
Street Hawkers	17,590	17,092
Inspections by Request	1,449	1,077
Wholesale Provision Merchants	27	13
Cold Stores	4,593	5,407
A-la-Mode Beef Dealers	3,043	3,566
Tripe Dealers	266	136
Caterers	48	70
Fish Friers	2,084	2,773
Jam, etc., Manufacturers	10	2
Horse Flesh Shops	9	18
Sausage and Pork Pie Manufacturers	1,915	1,234
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	75,411	81,294
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The above work does not include the inspection work at the City Meat Market, visits to stalls in the Market Hall, Fish Market, Vegetable Market, or Bell Street, there being Inspectors constantly employed in these Markets.

SLAUGHTERING OF ANIMALS FOR FOOD.

The following is a return shewing the number of animals slaughtered in the Public Slaughterhouses during the year 1927 and the preceding year:—

CITY MEAT MARKET.

			Beasts.	Calves.	Sheep and Lambs.	Pigs.	Total.
1927	...	...	43,835	56,000	265,385	41,134	406,354
1926	...	...	45,105	53,414	250,144	33,017	381,680

MONTAGUE STREET.

			Beasts.	Sheep.	Calves.	Goats.	Pigs.	Total.
1927	...	...	9	71	3	—	2,939	3,022
1926	...	...	3	4	—	1	2,937	2,945

Foreign Animals. The following is a return of foreign animals (included in the above returns) received in Birmingham for slaughter during the year:—

			Beasts.	Sheep and Lambs.	Pigs.	Total.
Irish	...	...	446	432	28,968	29,846
Canadian	...	...	163	—	—	163
Total 1927	...	...	609	432	28,968	30,009
Total 1926	...	...	3,510	342	22,488	26,340

Montague Street Pig Market. During the year 127,150 fat pigs (including Irish Pigs) passed through Montague Street Pig Market, and were licenced to Bacon Factories and Slaughterhouses.

Irish Pigs. The following is the number of Irish Pigs received in Birmingham on licence during the year:—

			Licenced to Montague Street Market.	Licenced direct to Bacon Factories.	Total.
Pigs	...	...	44,038	49,928	93,966

The City Meat Market and Public Slaughterhouses were opened for business December 27th, 1897, and the following shows the total increase since 1898 in the number of animals slaughtered at the Public Abattoir:—

			Beasts.	Calves.	Sheep.	Pigs.	Total.
1927	...	...	43,835	56,000	265,385	41,134	406,354
1898	...	...	20,175	10,857	100,458	11,703	143,193
Increase			23,660	45,143	164,927	29,431	263,161
Increase %			117.3	419.6	164.2	251	183.8

UN SOUND MEAT, ETC.

Return of Diseased Organs Destroyed as Unfit for Human Food.

					Bulls.	Cows.	Calves.	Swine.	Sheep.	Goats.	Total
<i>Lungs—</i>											
Tuberculosis	...	...	...	...	542	1,634	80	2,706	5	—	4,967
Other Conditions	...	...	...	...	382	1,164	352	847	1,019	5	3,769
<i>Hearts—</i>											
Tuberculosis	...	...	...	...	372	1,125	82	2,694	51	—	4,324
Other Conditions	...	...	...	...	139	429	337	861	918	5	2,689
<i>Bowels—</i>											
Tuberculosis	...	...	...	...	418	1,260	52	2,644	39	—	4,413
Other Conditions	...	...	...	...	123	382	204	334	484	5	1,532
<i>Stomachs—</i>											
Tuberculosis	...	...	...	...	419	1,265	42	2,564	—	—	4,290
Other Conditions	...	...	...	...	122	379	231	517	575	5	1,829
<i>Spleens—</i>											
Tuberculosis	...	...	...	...	419	1,266	79	2,735	4	—	4,503
Other Conditions	...	...	...	...	155	475	349	837	964	5	2,785
<i>Livers—</i>											
Tuberculosis	...	...	...	...	509	1,528	80	2,942	5	—	5,064
Other Conditions	...	...	...	...	2,102	6,306	398	2,044	6,434	5	17,289
<i>Kidneys—</i>											
Tuberculosis	...	...	...	...	327	996	69	251	—	—	1,643
Other Conditions	...	...	...	...	173	533	436	471	1,271	18	2,902
<i>Udders—</i>											
Tuberculosis	...	...	...	...	—	322	—	192	—	—	514
Other Conditions	...	...	...	...	—	360	—	324	—	—	684
<i>Heads—</i>											
Tuberculosis	...	...	...	...	338	1,018	56	2,364	4	—	3,780
Other Conditions	...	...	...	...	147	450	270	125	485	5	1,482

Return of Diseased Organs Destroyed as Unfit for Human Food—(Continued).

						Bulls.	Cows.	Calves.	Swine.	Sheep.	Goats.	Total
<i>Fore Quarters—</i>						16	57	6	5	—	—	84
Tuberculosis	...	...	...	...	...	8	30	—	4	3	—	45
<i>Hind Quarters—</i>						7	34	—	2	—	—	43
Tuberculosis	...	...	...	...	...	8	33	2	7	—	—	50
<i>Carcases—</i>						78	246	39	144	—	—	507
Tuberculosis	...	...	...	...	...	97	303	237	292	1,075	9	2,013
Other Conditions	...	...	...	...	...		

MISCELLANEOUS.

The quantity of miscellaneous meat surrendered was approximately 12 tons, of which the greater part was considered unfit owing to putrefaction.

Weight of Meat Surrendered. The total weight of meat surrendered during the year was 603 tons, as compared with 602 tons during 1926. This included 258 carcasses of calves for immaturity. The number of cases of surrender is 9,508.

Frozen Meat. During the year there were 4 tons 5 cwts. of frozen and chilled meat surrendered for putrefaction.

Return of Fish, Fruit, Vegetables, Poultry, etc., destroyed as unfit for food:—

No. of Surrenders.		T.	C.	Q.	LBS.
851	Fish	115	18	0	1
1,134	Poultry, etc.	16	15	1	4
197	Fruit and Vegetables	52	16	3	2
131	Miscellaneous	5	11	3	17
<u>2,313</u>		<u>191</u>	<u>1</u>	<u>3</u>	<u>24</u>

SHELL FISH, ETC.

The following is a summary showing the samples taken during the year and submitted for bacteriological examination, of shell fish offered for sale on our market:—

Number of Samples.		Origin.		
	Samples	English.	Irish.	Other Sources.
1	Oysters	1	—	—
70	Mussels	40	27	3
3	Cockles	3	—	—
3	Periwinkles	2	1	—
<u>77</u>		<u>46</u>	<u>28</u>	<u>3</u>

As the result of the bacteriological examination, mussels from Castlemaine Harbour in Ireland have been prohibited from being offered for sale on our Markets.

Fish Market. Owing to complaints respecting the storage of Fish refuse in the Fish Market pending removal, arrangements were made in conjunction with the Salvage Department for Pans to be supplied to those tenants who were without them, subject to their signing a form of Agreement with reference to the usage of the pans supplied. In all, 26 pans were supplied.

Poultry ex Irish Free State. In connection with importations of Poultry, etc., any questionable cases which have come to our notice we have reported to the Irish Commissioners in London, who have sent their Representatives here and investigated.

The condition of Irish foodstuffs being received on our Markets has greatly improved.

Sugar Sweepings. During the year notification was received of 390 bags of Sugar Sweepings being sent to Birmingham. These were examined and submitted to a special refining and filtration process before being used for human consumption.

Trichinosis. 2 cases of Trichinosis in human beings which were under treatment at the General Hospital were attributed to eating pork sold on the Birmingham Meat Market. The suspected pork was traced to a farm in Worcestershire which we subsequently visited. Following this all the carcasses of the pigs sent from this farm to the Birmingham Market were examined microscopically and in no case did we find evidence of Trichinosis in them. In all probability the cases were due to the affected people eating foreign pork, as Trichinosis is a disease which is rarely seen in this country at the present day.

Public Health (Meat) Regulations. On the whole, the provisions of these Regulations are being observed by the Birmingham Meat Traders and others. The standard of the Meat Trade and of the Butchers' shops in Birmingham has improved considerably, many of the older shops being converted from the open window to the fixed window type.

A circular notice to Butchers and others is being issued informing them that—

“In order to comply with the above Regulations the meat should under ordinary circumstances be kept covered, or the window of the shop shut, though when the weather conditions permit it the window may be kept open temporarily *during brisk trade.*”

Veterinary Inspectors. Mr. H. B. Allan, M.R.C.V.S., D.V.S.M., who was employed at the City Meat Market, relinquished his post here 30th April to take up an appointment under the Cumberland County Council. He was succeeded by Mr. A. J. Baxter, M.R.C.V.S.

Owing to the large increase in the number of animals slaughtered in the Public Abattoirs, Mr. H. Burrow, M.R.C.V.S., D.V.S.M., was appointed as an additional Veterinary Meat Inspector and commenced duties at the Public Abattoir on November 14th.

Residual Values. Since the 1st June, 1926, the Markets and Fairs Committee have paid compensation at the rate of 3/- cwt. to owners in respect of the residual value of carcasses or parts of carcasses which are condemned as unfit for human food and are voluntarily surrendered. The Committee at a meeting held on 15th July, passed the following Resolution:—

9453. **RESOLVED:**—That the present arrangements for the payment of compensation to owners in respect of the residual value of pigs carcasses voluntarily surrendered be continued for a further period of 12 months.

PROSECUTIONS.

The following is a summary of prosecutions in which convictions were obtained for offences under the Public Health Acts, the Public Health (Meat) Regulations, and offences against the Diseases of Animals Acts and Orders:—

	Number of convictions.	Total of Fines.
Diseased Meat	5	£20
Fish, Fruit, etc.	—	—
Slaughtering on unlicensed premises	5	£2
Public Health (Meat) Regulations	25	£38 5s.
Offences against Diseases of Animals Acts and Orders:—		
Foot and Mouth Disease	1	£1 10s.
Parasitic Mange	—	—
Swine Fever	1	Costs only.

SALE OF FOOD AND DRUGS ACTS. MILK AND CREAM REGULATIONS.

Full particulars of the above are given in the Report of the City Analyst which is printed separately.

VI. PREVALENCE OF, AND CONTROL OVER, INFECTIOUS DISEASES.

INFECTIOUS DISEASES GENERALLY.

The deaths during 1927 from some of the chief infectious diseases were as follows :—

Disease.	Deaths in 1927	Average 1917-26.	Above or below the average
Enteric Fever	4	4	—
Smallpox	0	0	—
Measles	129	142	— 13
Scarlet Fever	8	35	— 27
Whooping Cough	69	168	— 99
Diphtheria	61	126	— 65
Pulmonary Tuberculosis	857	962	—105
Other Forms of Tuberculosis	160	161	— 1
Influenza	399	560	—161

The prevalence of the notifiable diseases is shown in the next table :—

Disease.	Cases in 1927.	Average 1917-26.	Above or below the average
Enteric Fever	40	29	+ 11
Smallpox	1	0	+ 1
Scarlet Fever	1510	2553	—1043
Diphtheria	1543	1444	+ 99
Erysipelas	427	382	+ 45
Puerperal Fever	97	129	— 32
Puerperal Pyrexia	117	Only recently notifiable.	
Ophthalmia Neonatorum	409	368	+ 41
Pulmonary Tuberculosis	1343	2141	— 798
Other Forms of Tuberculosis	264	348	— 84
Acute Primary or Influenzal Pneumonia	2641	Only recently notifiable.	
Cerebro-Spinal Fever	12	14	— 2
Acute Poliomyelitis	15	17	— 2
Polioencephalitis	2	Only recently notifiable.	
Encephalitis Lethargica	53	„	„
Malaria	5	„	„
Dysentery	3	„	„
Trench Fever	0	„	„

The elementary school teachers reported the following cases :—

Measles	9,032
German Measles	186
Whooping Cough	2,496
Chicken Pox	5,191
Mumps	4,465

For particulars of the visits paid to these cases see Health Visitors' Work, page 23.

ENTERIC FEVER.

There were 40 cases notified during 1927 with four deaths. During the previous 10 years the average number of cases was 29 per annum and four deaths.

ENTERIC FEVER.

	Number of Cases.	Case rate per 1,000.	Number of Deaths.	Death-rate per 1,000.	Case mortality per cent.
1901-5 (Average)	544	.70	91	.12	16.73
1906-10 ...	242	.30	51	.06	21.07
1911-15 ...	90	.11	22	.03	24.40
1916-20 ...	22	.02	5	.01	22.73
1921-25 ...	30	.03	4	.00	13.30
1918 ...	23	.03	5	.01	21.74
1919 ...	34	.04	9	.01	26.47
1920 ...	12	.01	—	—	Nil
1921 ...	26	.03	5	.01	19.23
1922 ...	11	.01	3	.00	27.27
1923 ...	32	.03	4	.00	12.50
1924 ...	48	.05	5	.01	10.42
1925 ...	31	.03	4	.00	12.90
1926 ...	52	.05	3	.00	5.77
1927 ...	40	.04	4	.00	10.00

Of the 40 cases notified in 1927, 16 were due to the *Bacillus Typhosus*, 15 to *Bacillus Paratyphosus B.*; while to judge from agglutination results in cases where there was no complicating influence of previous army inoculations, two cases appear to have been due to mixed infections of *B. Typhosus* and *B. Paratyphosus B.*, and one case to a mixed infection of *B. Typhosus* and *B. Paratyphosus B.*, and *C.*: in four cases no record of serum tests was obtainable; and in two cases the serum tests were inconclusive and, in the absence of definite clinical signs, left the diagnosis in some doubt. Of the deaths, two were in cases of *B. Typhosus* infection, one in a case of *B. Paratyphosus B.* infection, and one in the case of mixed infection of *B. Typhosus* and *B. Paratyphosus B.*

It was not in most cases possible to trace even the probable origin of the disease. One case of paratyphoid *B.* was traced to milk infection contracted while staying in Kent where an epidemic took place due to a carrier employed in milking; another case was infected at Southam in Warwickshire as part of an epidemic occurring there; while in three cases a history was obtained of the patient having drunk water or used water for washing utensils from ponds or streams in the surrounding country. All cases occurred in separate households with the following exceptions. In one case a husband seems to have been infected by his wife who contracted the disease from an unknown source, and in another case a brother and sister were apparently infected from a common source. With these exceptions the origin of the disease was not traced.

SMALLPOX.

One case was notified in the third quarter of the year. No connection with any other known case could be established and no spread of the disease occurred.

VACCINATION.

The following are the vaccination statistics for the year ending December 31st, 1926.

Births returned	...	...	...	18,291	
Conscientious objections	...	...	...	3,366	or 18.4 per cent. of total.
Died unvaccinated	...	...	...	1,051	
Successfully vaccinated	...	...	...	11,215,	or 65.0 per cent. of survivors.
Insusceptible	...	...	...	147,	or 0.9 " "
Postponed by medical certificate	...	...	...	137,	or 0.8 " "
Removed to other districts	...	...	...	626,	or 3.6 " "
Lost sight of	...	...	...	440,	or 2.6 " "
Still under notice	...	...	...	1,309,	or 7.6 " "

MEASLES.

There were 129 deaths recorded from this disease during 1927, giving a death-rate of .13 per 1,000. The number of cases of Measles in past years, together with the mortality rates, are set out in the following table.

	Number of Cases.	Number of Deaths.	Death-rate per 1,000.
1901-5 (Average)	?	279	.36
1906-10 ...	?	294	.36
1911-15 ...	4,822* (1912-1915)	419	.48
1916-20 ...	10,773*	168	.18
1921-25 ...	6,831*	121	.13
1918 ...	5,413	71	.08
1919 ...	15,158	189	.20
1920 ...	7,144*	147	.16
1921 ...	4,618*	153	.17
1922 ...	4,147*	79	.09
1923 ...	7,787*	186	.20
1924 ...	5,969*	79	.08
1925 ...	11,636*	109	.11
1926 ...	6,980*	78	.08
1927 ...	9,032*	129	.13

*Partial notification only through schools.

To a large extent the death-rate from Measles depends on the period of the year when the disease is prevalent and on the area involved. The death-rates last year in the different groups of wards were as follows:—

Central wards	...	...	...	...	.27
Middle ring	...	...	...	...	.10
Outer ring	...	...	...	...	.07

It will be observed that the death-rate from Measles in the central wards is four times as great as in the outer ring of the City.

The ages at death are shown below:—

Under 1 year	...	...	...	...	...	27 deaths
1 and under 2 years	...	...	...	...	...	58 „
2 and under 3 years	...	...	...	...	...	20 „
3 and under 4 years	...	...	...	...	...	9 „
4 and under 5 years	...	...	...	...	...	7 „
All over 5 years	...	...	...	...	...	8 „

Every known case of Measles is visited by one of the health visitors as soon as information is received, and arrangements are made for the attendance of a district nurse in cases of serious illness and where the nursing arrangements are imperfect. In all other cases information is given as to the necessity of keeping the child in bed in a room which is well ventilated, and at the same time attending to various nursing matters.

SCARLET FEVER.

From the appended table it will be seen that the death-rate from scarlet fever during 1927 was .01 per 1,000. The number of new cases notified was 1,510, so that both in number and severity the cases of scarlet fever showed a very low record in 1927.

	Number of Cases.	Case-rate per 1,000.	Number of Deaths.	Death-rate per 1,000.	Case mortality per cent.
1901-05 (Average)	4,038	5.21	172	.22	4.26
1906-10 ...	3,956	4.83	116	.14	2.93
1911-15 ...	5,456	6.29	125	.14	2.29
1916-20 ...	2,472	2.73	41	.04	1.66
1921-25 ...	2,652	2.84	32	.03	1.21
1918 ...	1,035	1.19	11	.01	1.06
1919 ...	2,821	3.05	45	.05	1.60
1920 ...	5,563	6.13	110	.12	1.98
1921 ...	3,320	3.62	40	.04	1.20
1922 ...	3,250	3.51	36	.04	1.11
1923 ...	2,619	2.81	39	.04	1.49
1924 ...	2,219	2.31	23	.02	1.04
1925 ...	1,852	1.95	22	.02	1.19
1926 ...	1,709	1.78	8	.01	0.47
1927 ...	1,510	1.56	8	.01	0.53

The incidence was as follows :—

Central Wards	1.24 cases per 1,000 of population.
Middle Ring	1.57 „ „
Outer Ring	1.64 „ „

During the year 1,542 persons were notified as suffering from Scarlet Fever; and of these, 931 were admitted to hospital, and 611 treated at home. A few cases were also treated in the City Hospitals on behalf of other sanitary authorities.

Among the Birmingham cases admitted to hospital were 72 which proved not to be Scarlet Fever, and among those kept at home 3 proved not to be Scarlet Fever; while 43 patients admitted to hospital as Diphtheria were found to be really suffering from Scarlet Fever.

These revisions leave a total of 1,510 actual cases of Scarlet Fever, 902 of whom were treated in hospital, and 608 in their homes.

RETURN CASES.

During the year 37 Return Cases were reported following the discharge from hospital or release from home isolation of 30 infecting cases.

The details are as follows :—

	No. of infecting cases discharged.	No. of infecting cases, each followed by—		Total No. of Return cases.
		One Return Case.	Two Return cases.	
Hospital cases.	28	21	7	35
Home cases	2	2	—	2

Dr. E. H. R. Harries' report on Scarlet Fever cases in the City Hospital will be found on page 57.

WHOOPIING COUGH.

There were 69 deaths due to whooping cough in 1927. This number is 99 fewer than the average in the preceding ten years.

The ages at death were as follows :—

	Number of Cases.	Number of Deaths.	Death-rate per 1,000.
1901-5 (Average)	?	316	.41
1906-10 ...	?	294	.36
1911-15 ...	2,611* (1912-1915)	213	.25
1916-20 ...	3,592*	206	.23
1921-25 ...	4,463*	180	.19
1918 ...	4,647*	277	.32
1919 ...	1,218*	60	.06
1920 ...	3,782*	182	.20
1921 ...	2,449*	93	.10
1922 ...	7,175*	356	.38
1923 ...	1,772*	44	.05
1924 ...	4,783*	185	.19
1925 ...	6,138*	222	.23
1926 ...	4,895*	128	.13
1927 ...	2,496*	69	.07

*Partial notification through schools.

The ages at death were as follows :—

						1923.	1924	1925.	1926.	1927.
Under 1 year	...	...	...	...	...	17	78	94	61	31
Between 1 and 2 years	...	...	...	...	...	16	65	83	42	25
" 2 " 3 "	...	...	...	...	...	6	23	23	9	6
" 3 " 4 "	...	...	...	...	...	3	10	9	6	4
" 4 " 5 "	...	...	...	...	...	1	6	9	2	1
Over 5 years	...	...	...	...	...	1	3	4	8	2
Totals	...	...	...	...	...	44	185	222	128	69

From the above it will be seen that 56 of the 69 deaths occurred among babies under two years of age.

The following death-rates indicate that, as in previous years, the cases are more fatal in the poorer areas :—

Central Wards	...	...	...	...	...	.11 per 1,000
Middle Ring	...	...	...	...	...	.06 "
Outer Ring	...	...	...	...	...	.05 "

Every case reported is visited with a view to supplying a district nurse at the expense of the Public Health Department, if necessary, and giving advice in regard to what is needful to prevent complications.

DIPHTHERIA.

Both the prevalence and the severity of diphtheria were somewhat lower in 1927 than in the immediately preceding years. The figures are as follows :—

DIPHTHERIA CASES AND DEATHS.

	Cases Notified.	Case-rate per 1,000 of Population.	Deaths.	Death-rate per 1,000.	Case Mortality per cent.
1901-05 (Average)	991	1.28	159	.20	16.0
1906-10	1,210	1.48	149	.18	12.3
1911-15	1,125	1.30	155	.18	13.8
1916-20	1,065	1.19	143	.16	13.4
1921-25	1,651	1.76	109	.12	6.6
1918	881	1.02	160	.18	18.2
1919	970	1.05	126	.14	13.0
1920	1,755	1.93	201	.22	11.5
1921	1,652	1.80	120	.13	7.2
1922	1,285	1.39	89	.10	6.9
1923	1,537	1.65	139	.15	9.0
1924	1,887	1.97	100	.10	5.3
1925	1,896	2.00	95	.10	5.0
1926	1,804	1.88	116	.12	6.4
1927	1,543	1.60	61	.06	4.0

The distribution over the City is indicated in the table below. From this it will be seen that the cases were more numerous in the central and middle ring of wards than in the outer ring.

					Diphtheria.	Average 1.77
Ward.					Case-rates per 1,000	
Central Wards	...	St. Paul's	...	...	3.63
	...	St. Mary's	...	...	1.93
	...	Duddeston and Nechells	...	...	0.93
	...	St. Bartholomew's	...	...	1.35
	...	St. Martin's and Deritend	...	...	1.67
	...	Market Hall	...	...	1.12
	...	Ladywood	...	...	1.73

Middle Ring	...	{	Lozells	1.97	}	Average 1.68
			Aston	...	...	...	...	1.84
			Washwood Heath	...	...	...	...	0.95
			Saltley	...	...	...	...	1.34
			Small Heath	...	...	...	...	0.72
			Sparkbrook	...	...	...	...	0.78
			Balsall Heath	...	...	...	...	0.86
			Edgbaston	...	...	...	...	0.99
			Rotton Park	...	...	...	...	2.05
			All Saints'	5.27		
Outer Ring	...	{	Soho	1.06	}	Average 1.29
			Sandwell	...	...	...	...	0.83
			Handsworth	...	...	...	...	0.89
			Erdington North	...	...	...	...	1.62
			Erdington South	...	...	...	...	1.57
			Yardley	...	...	...	...	1.70
			Acocks Green	...	...	...	...	0.59
			Sparkhill	...	...	...	...	0.64
			Moseley and Kings Heath	...	...	...	...	1.48
			Selly Oak	...	...	...	...	0.83
			King's Norton	...	...	...	...	2.67
			Northfield	...	...	...	...	2.31
			Harborne	...	...	...	...	0.52
			Whole City	1.60		

AGE INCIDENCE.			
Ages.	Cases Notified.	Deaths Registered.	Case Mortality per cent.
Under 1 year	14	2	14
Between 1 and 2 years	56	6	11
Between 2 and 3 years	86	1	1
Between 3 and 4 years	103	3	3
Between 4 and 5 years	117	8	7
Between 5 and 10 years	561	30	5
Between 10 and 15 years	237	7	3
Between 15 and 20 years	107	0	—
20 years and over	262	4	2
Total	1,543	61	4

During the year 2,097 cases were notified as suffering from Diphtheria and of these, 1,809 were removed to hospital, and 288 kept at home. Of the Birmingham cases removed to hospital, 549 were found to be not true Diphtheria, while 3 cases admitted as Scarlet Fever was revised to Diphtheria. Among those kept at home, 15 were afterwards found to be not Diphtheria.

The total number of actual cases for the year was therefore 1,543, of whom 1,263 were treated in hospital, and 280 at home.

In addition to these a small number of cases were treated in the City Hospitals on behalf of other Authorities.

Dr. Harries report on the work of the City Hospital will be found on page 57.

DIPHTHERIA ANTI-TOXIN.

Diphtheria antitoxin is distributed free of charge to doctors for the treatment of Birmingham patients from the following places:—

The Bacteriological Laboratory, Lodge Road; The Public Health Department, Congreve Street and Police Stations at Bristol Road, Northfield; High Street, Selly Oak; Pershore Road, Stirchley; High Street, King's Heath; Stratford Road, Sparkhill; Yardley Road, Acocks Green; Coventry Road, Hay Mills; Victoria Road, Stechford; Washwood Heath; Wilton Road, Erdington; Victoria Road, Aston; Thornhill Road, Handsworth; Holyhead Road, Handsworth.

The total cost of Diphtheria antitoxin for the financial year ending March 31st, 1928, was:—

Antitoxin used at City Hospital	£1,349 10 0
Antitoxin supplied to doctors	£437 8 0

IMMUNISATION OF CHILDREN AGAINST DIPHTHERIA.

(Report by DR. E. H. R. HARRIES AND DR. D. K. JEYES).

Last year we reported that up to the end of 1926, 1,099 children either in residential institutions or at clinics had been protected against diphtheria by immunising doses of toxoid-antitoxin. During 1927 this work, the value of which is no longer in dispute amongst those in a position to judge, was considerably extended.

The clinic in the Public Health Department was established in April, 1926, and a smaller clinic at Little Bromwich Hospital was commenced a little later.

The latter clinic has been kept in being for the convenience of children living in the neighbourhood of the Hospital, but the vast majority of immunisations of children of pre-school age and of day-school children has been carried out in the Public Health Department. For a considerable period during 1927, as many as five or six clinics were held weekly in the Department. This became necessary in order to cope with the numbers of children brought up in response to the intensive efforts of the Child Welfare Workers in districts where diphtheria had been exceptionally prevalent. In order to meet the convenience of children of school age, certain of the clinics were held after school hours.

At the commencement of 1928 it was decided that it would be preferable to carry out the immunisation of children of school age at the schools themselves.

With the co-operation of the School Medical Officer (Dr. Auden), schools were selected at which cases of diphtheria had been occurring or which were in districts in which diphtheria had been prevalent. The headmasters or headmistresses circularised the parents and obtained the necessary permission for testing and/or immunisation. Parents who declined permission were specially interviewed in order to make sure that they fully understood the nature of the procedures offered. This work in day-schools has proved very successful. The numbers dealt with are rapidly increasing.

During 1927, important additions were made to the list of children's residential institutions desiring protection for their inmates against diphtheria.

The institutions originally protected—in the autumn of 1925—and others since added to the list have been regularly visited for the testing and immunisation of new entrants and the re-testing—in order to check the value of the methods—of those immunised previously. The following-up of new entrants is obviously of the greatest importance if the institutions are to be kept free from the disease.

In some institutions protection has been sought against scarlet fever also. Those found, by the Dick test, to be susceptible, have been actively immunised against scarlet fever. The duration of the immunity to scarlet fever so afforded is not yet known. In one institution, 46 children out of 58 actively immunised against scarlet fever remained Dick negative at the end of one year. The 12 children who had again become Dick positive at the end of a year received a further immunising dose of scarlet toxin. Re-tests of the 58 children were carried out at the end of a further 12 months. The original 46 children still remained Dick negative as did also the 12 who had received an additional dose 12 months previously. This particular institution receives children from the poorest classes; such children possess a high basal immunity to both diphtheria and scarlet fever and are easy to immunise. No case of scarlet fever (or diphtheria) occurred in the institution during the two years.

In another institution, receiving children from all over the country from less poverty-stricken homes, 58 children were similarly immunised against scarlet fever. At the end of a year 32 had become Dick positive. These 32 children received a further immunising dose. Re-tests of the 58 children at the end of 2 years showed that they all remained Dick negative. No case of scarlet fever occurred amongst the residents during these 2 years. The same remark applies to diphtheria against which disease the children were also protected.

It is noteworthy that the children residing in this institution have been known immunes to both diphtheria and scarlet fever since the end of 1925 and that the orphanage itself has been completely free from both diseases. Attached to the orphanage is, however, a school in which both boarders and day scholars are taught under exactly the same conditions. The day scholars have not been immunised against either disease. Both scarlet fever and diphtheria have occurred at intervals amongst the unprotected day scholars. Surely no more practical example of the value of immunisation could be adduced?

In residential institutions Schick or Dick tests are always performed prior to immunisation. At the clinics and at day schools tests for susceptibility are omitted in the case of children under 10 years of age. It is known that in an average population the majority of these younger children are susceptible.

The omission of the preliminary test reduces the number of attendances which the mother has to make with her children—often at considerable inconvenience.

The preparation used for active immunisation against diphtheria is *toxoid-antitoxin*, and not *toxin-antitoxin*. It should be emphasised that this preparation is absolutely harmless. Reactions following an immunising dose have been limited, in children, to an occasional local reddening of the arm at the site of injection.

Re-tests following the immunising course to establish the fact of immunity are always desirable and parents are invited to bring their children for such re-tests some 6 to 9 months after the completion of the course. About 50 per cent. avail themselves of the invitation. The majority of children on re-test give a frankly negative reaction shewing that immunity has been brought about. In a few, the re-test is positive; but on repetition a week later becomes negative. The tiny amount of toxin contained in the dilution employed for the Schick test has sufficed, in such cases, to increase the level of immunity up to that indicated by a negative Schick test. Only exceptionally is it necessary to give an additional dose of toxoid-antitoxin.

From time to time a child who is said to have been immunised is sent into hospital with a diagnosis of diphtheria. Such cases are always carefully investigated and re-tested and so far have fallen into the following categories:—

(a) Schick negative (immune) carriers of organisms which may or may not prove to be virulent when submitted to a guinea-pig test.

(b) Schick positive reactors who have only had a Schick test previously and no injections of toxoid-antitoxin, or who have not completed their immunising course before becoming infected with the diphtheria bacillus.

No indubitable Schick negative reactor, whether originally negative or negative as the result of a course of immunising doses of toxoid-antitoxin has yet, to our knowledge, contracted clinical diphtheria.

It should be emphasised that no degree of immunity to any disease, produced by whatever method, can serve to prevent the harbouring of the organisms of the disease. The important difference is that the immune person will not contract the disease as a result of infection whereas the non-immune person is likely to do so. Chronic carriers of virulent diphtheria bacilli are always immune. They are nevertheless a potential danger to others. They only cease to be dangerous when one of two things happens—either they are freed from the organisms or their associates are also rendered immune, and so insusceptible. The child carrier of virulent diphtheria bacilli associating only with children who have been immunised with toxoid-antitoxin may convey the *organisms* to other children but no *disease* will result in the children to whom they are conveyed.

In order to give an idea of the amount of work actually carried out at the time of writing this report the figures which follow represent, in round numbers, the children tested for susceptibility to, and immunised against, diphtheria from the commencement of the work up to the end of June, 1928.

	No. of Schick tests.	Schick positive.	Immunised.
1. Children below school age at clinics ...	—	—	2,000
2. Children of school age, at clinics and at schools, (Only those over 10 Schick tested)	1,000	500	1,000
3. Children in residential institutions ...	3,000	1,130	1,130
Total number of children immunised	...	...	4,130

(These figures do not include the Schick tests or immunisations carried out in the Hospitals).

INFLUENZA.

The position of this disease as compared with former years is shown in the tables following :

	Deaths.	Rate per 1,000.
1901-05 (Average) ...	102	.13
1906-10 " 	150	.18
1911-15 " 	115	.13
1916-20 " 	780	.88
1921-25 " 	317	.34
1918 	2172	2.50
1919 	1062	1.15
1920 	421	.46
1921 	134	.15
1922 	442	.48
1923 	264	.28
1924 	375	.39
1925 	370	.39
1926 	260	.27
1927 	399	.41

In the next table the ages at death are set out for 1927 and the four preceding years. It will be noted that the disease is most fatal at ages over 35 years.

The ages at death were as follows :—

Ages.	1923.	1924.	1925.	1926.	1927.	Total.
0—5 ...	18	22	19	13	26	98
5—10 ...	1	4	5	0	4	14
10—15 ...	5	4	5	2	5	21
15—20 ...	8	9	8	1	10	36
20—25 ...	7	5	11	8	10	41
25—35 ...	13	30	18	26	29	116
35—45 ...	29	47	41	40	55	212
45—55 ...	39	64	60	40	47	250
55—65 ...	42	64	79	50	71	306
65—75 ...	64	70	78	46	83	341
75—85 ...	33	44	38	25	50	190
85 upwards	5	12	8	9	9	43
Totals	264	375	370	260	399	1668

CITY BACTERIOLOGICAL LABORATORY.

The Laboratory is in charge of Dr. H. G. M. Henry as Director, with Dr. F. C. Lewis as Assistant.

The following return of work done at the Laboratory has been prepared by Dr. Henry and shows statistically the scope and nature of the work done.

ANNUAL RETURN FOR YEAR ENDING DECEMBER 31ST, 1927.

Diphtheria Swabs—							
(a)	For Practitioners	...	...	...	...	...	8,330
(b)	„ Fever Hospitals	...	...	...	...	...	9,844
(c)	„ Virulence Tests	...	...	...	...	...	4,662
Fæces	...	...	...	...	...	...	35
Milks for Bacteriological Content	...	...	...	...	...	...	1,523
Milks for Tubercle Bacilli	...	...	...	...	...	...	1,125
Shell Fish	...	...	...	...	...	...	77
Sputum	...	...	...	...	...	...	2,619
Vaccines	...	...	...	...	...	...	4
Venereal Diseases—							
1.	Blood for Wassermann Reaction	...	...	...	...	...	7,291
2.	Cerebro Spinal Fluid—						
(a)	For Wassermann Reaction	...	...	...	...	...	287
(b)	„ Cell Count	...	...	...	...	...	31
3.	Films for Gonorrhœa	...	...	...	...	...	4,030
4.	Gonococcal Fixation Tests	...	...	...	...	...	157
5.	Serum for Spirochætes	...	...	...	...	...	3
6.	Urine Examinations—						
(a)	Microscopic	...	...	...	...	...	397
(b)	Chemical	...	...	...	...	...	720
7.	Cultures	...	...	...	...	...	2,288
8.	Vaccines	...	...	...	...	...	346
9.	Miscellaneous	...	...	...	...	...	1,047
Waters	...	...	...	...	...	...	252
Widals for Enteric Fever	...	...	...	...	...	...	52
Miscellaneous	...	...	...	...	...	...	684
							45,804

CITY HOSPITALS.

The following statement shows the cases dealt with during the 52 weeks which constitute the statistical year:—

SCARLET FEVER.

	1927.	1926.	1925.	1924.
Under treatment at beginning of year	147	208	237	264
Admitted during year	962	1,059	1,474	1,675
Discharged	976	1,107	1,482	1,674
Died	9	13	21	28
Remaining at end of year	124	147	208	237

DIPHTHERIA.

	1927.	1926.	1925.	1924.
Under treatment at beginning of year	263	239	358	198
Admitted during year	1,839	2,000	1,986	1,766
Discharged	1,748	1,868	2,007	1,510
Died	74	108	98	96
Remaining at end of year	280	263	239	358

Note.—These figures include a certain number of cases in which the diagnosis was revised in hospital and also a small number of cases treated on behalf of other Authorities.

REPORT ON THE CITY HOSPITALS.

(By DR. E. H. R. HARRIES, MEDICAL SUPERINTENDENT).

I beg to report upon the work of the City Hospitals for the calendar year ending December 31st, 1927.

As in 1926, the admissions were divided between Little Bromwich and Lodge Road Hospitals: the former receiving mainly cases of diphtheria, and the latter, almost exclusively, cases of scarlet fever.

The occurrence of a single case of smallpox in August necessitated the utilisation of Witton Hospital.

NEW WARDS AT LITTLE BROMWICH.

The cubicle blocks, referred to in my last report, have been in use throughout the year and have abundantly justified their provision.

It has been a very rare event for a cubicle to be vacant for a longer period than the few hours necessary for the purpose of cleansing between the discharge of one case and the admission of another.

The new H. block (Wards H.1 and H.2) was formally opened by the Lord Mayor in May. Each ward provides accommodation for 25 patients; 20 in the main ward and 5 in small wards. The entrance to each floor is entirely separate. Thus it is possible to nurse different infections on each floor.

The verandah with southern exposure, built out from the ground floor, has proved of great value. Numbers of children have been nursed on the verandah night and day throughout the year. The progress of these children has been remarkable. There is great competition amongst the older children to be allowed to live on the verandah. Only once during the winter, on the occasion of a heavy snowstorm, did it become necessary to wheel the beds into the ward.

The new I. and J. Blocks, similar to H. Block, are under construction. When completed they will, between them, provide accommodation for another 100 patients.

ELECTROCARDIOGRAPH.

The Public Health Committee, recognising that an important function of a large infectious diseases hospital is investigation with a view to improved methods of diagnosis and treatment, sanctioned the equipment of a small ward in H.1 as an electrocardiograph room.

The electrocardiograph itself was provided through the instrumentality of Sir John Robertson. Three wards were connected up with the cardiograph room so that a variety of clinical types might be available for record and comparison. The equipment is very complete and it may be claimed that Little Bromwich was the first fever hospital in this country to possess such facilities for cardiological research.

Dr. K. Douglas Wilkinson, Physician to the Birmingham General Hospital and to the Children's Hospital was appointed as Cardiologist to the hospital for a year in the first instance. The primary objective is the investigation of the heart in diphtheria. It is generally agreed that the majority of cases of fatal diphtheria succumb as the result of damage to the heart muscle caused by diphtheria toxin. It is proposed to ascertain whether the cardiograph will assist in the earliest possible diagnosis of cardiac involvement and also to attempt some evaluation of the various methods hitherto available in the treatment of this very grave complication. The first step, of course, is to collect and compare records. It is hoped that in next year's report it may be possible to present a considered estimate of the results obtained.

ULTRA VIOLET THERAPY.

Again with the assistance of Sir John Robertson and the approval of the Committee, a Uviator (Mercury vapour) lamp of a type suitable for local applications of ultra-violet rays was installed in a similar small ward to that housing the electrocardiograph. The primary purpose of this lamp is the clearance of the diphtheria carrier by local applications of the rays to the throat and nose. If the work of certain American workers can be repeated, the method possesses obvious advantages over what is at present the best one available for the treatment of the obstinate carrier, viz., the removal of tonsils and adenoids. Here again, the work has not progressed sufficiently to enable any detailed statement to be made in this report. A comparison of the various methods over long series of cases is requisite before any expression of opinion is justified.

LECTURE ROOM FOR NURSES.

During the year a new lecture and class room has been provided for the nurses by the Committee. Largely constructed from materials made available by the demolition of old wards, this detached building in the neighbourhood of Z. Block provides admirable accommodation for the purpose. The structure is divided into two rooms; the larger is used for lectures and tutorial classes held by the Sister Tutor, and the smaller for practical instruction in nursing procedures. The lecture room is equipped with a lantern and numerous models and diagrams.

The following tables show the number of patients under treatment during the calendar year.

I. DIPHTHERIA. (Uncorrected for diagnosis).

	Little Bromwich.	Lodge Road.	Total.
In hospital on December 31st, 1926 ...	276	1	277
Admitted during 1927	1,842	5	1,847
Transfers during 1927	0	0	0
Discharged during 1927	1,763	5	1,768
Died during 1927	69	1	70
Remaining December 31st, 1927 ...	286	0	286

II. SCARLET FEVER. (Uncorrected for diagnosis).

	Little Bromwich.	Lodge Road.	Total.
In hospital on December 31st, 1926 ...	5	139	144
Admitted during 1927	170	801	971
Transfers during 1927	22	0	22
Discharged during 1927	175	828	1,003
Died during 1927	2	8	10
Remaining December 31st, 1927 ...	20	104	124

III. MISCELLANEOUS INFECTIONS. (All admitted to Little Bromwich).

In hospital on December 31st, 1926 ...	12
Admitted during 1927	30
Discharged during 1927	24
Died during 1927	1
Remaining December 31st, 1927 ...	17

IV. SMALLPOX. One case occurring in an unvaccinated adult was admitted to the hospital at Erdington. The patient was discharged cured.

DIPHTHERIA.

Out of a total of 1,847 cases admitted with a diagnosis of diphtheria revision of diagnosis was necessary in no less than 540 cases (29.3%). The net total of cases of clinical diphtheria was thus 1,307. The net number of deaths from diphtheria (after revision of diagnosis) was 57. In 21 instances death occurred within 24 hours of admission. The case mortality, based upon the corrected admissions and corrected deaths, works out at 4.36%; if the 21 cases which were moribund upon admission be removed from the total the case mortality rate becomes 2.67%.

The high percentage of admissions necessitating revision of diagnosis justifies some further consideration in this report. Of the 540 cases under review 413 had been "swabbed" by the practitioner before notification and removal to hospital. These cases were thus examples of so-called "bacteriological" diphtheria. The remaining 127 were sent into hospital upon clinical grounds alone.

In the "swabbed" series 6 cases, and in the "unswabbed" series 7 cases, were found to be suffering from diphtheria and scarlet fever. These cases may fairly be deducted from each series, the totals of which then become 407 and 120 respectively. These two series of cases have been analysed in detail as regards the actual clinical condition upon admission. In each series 17 different columns would be necessary to represent the diversity of diseases.

Various forms of tonsillitis account for 295 cases in the "swabbed" series and for 52 cases in the "unswabbed" series.

The following table shows the age groups of the patients in these two series of revised diagnosis.

Age Group.	Swabbed before admission.	Not swabbed before admission.
0—5	73	52
5—10	101	27
10—15	74	16
15—20	65	7
Over 20	100	25
	<hr/> 413	<hr/> 127

For several years it has been the custom in this hospital to perform a Schick test upon admission upon all patients sent in with a diagnosis of diphtheria who present, in the opinion of the Medical Officers, no clinical evidence of the disease.

Each year an average of some 500 tests is performed for this reason alone.

During the last two or three years Dr. H. Henry, the Director of the City Bacteriological Laboratory, has carried out for us very large numbers of guinea-pig Schick tests in order to ascertain whether the organisms—if any—obtained by swabbing the nose or throat are toxic or not.

Thus, in the "swabbed" series of admissions enumerated above, each case, save the 6 combined infections of diphtheria and scarlet fever, was Schick tested and re-swabbed as soon as possible after admission to hospital. The swabs were sent to the Laboratory for a report as to the toxicity of the organisms—if any—present. Of the 407 cases, each of which had been sent into hospital by the practitioner upon the receipt of a report that the swab was positive, 51 (12.5%) were reported to be harbouring diphtheria bacilli which gave a positive guinea-pig Schick test: in no less than 356 (87.5%) a report was received either that the guinea-pig Schick test was negative or that no diphtheria bacilli was present in the swabs from nose and throat.

These 51 patients from whom toxic organisms were recovered were with very few exceptions Schick negative (immune) carriers of virulent diphtheria bacilli. A few were Schick positive upon admission, but became Schick negative upon repetition of the test in a few days. One or two remained Schick positive, but upon re-swabbing in a few days were found to be bacteriologically free, i.e., they were transient carriers only. It is true to say that in the vast majority of cases the carrier of virulent organisms is immune to diphtheria, as shown by a negative Schick test; occasionally the process of reversal of the Schick test from positive to negative may be observed, the patient becoming immune as the result of an infection which is insufficient to produce clinical signs of the disease. This is the process of "natural" immunisation which is constantly occurring in the community. The transient carrier frees himself of organisms before immunity, as a result of that particular dose of infection, can be produced.

From the point of view of hospital administration and costs the undue reliance of the practitioner upon the swab for diagnostic purposes is a serious matter. With a combination of the Schick test and virulence tests of the organisms it is possible to discharge these "swabbed" cases from the hospital with safety to the patient, the community and the institution in an average of from 7 to 10 days. Nevertheless, these cases cost the Committee, upon a conservative estimate, about £1,000 in 1927. To this must be added the social inconvenience and economic loss to some 150 individuals of wage earning age.

The swab is being allowed to overstep its legitimate position as an aid to the correct interpretation of physical signs, and is being employed as a diagnostic agent in the *absence* of physical signs. There is another side to the picture. Indiscriminate swabbing leads to the detention in hospital, quite unnecessarily, of numbers of people: swabbing, when there are manifest clinical signs of diphtheria, before initiating treatment, may lead to disaster for the patient or, at best, to a critical and prolonged illness which might have been averted by a timely dose of antitoxin.

DIPHTHERIA CARRIERS.

In my report of last year the successful results of the treatment by surgical means of the chronic carrier of diphtheria bacilli of proved virulence was recorded. This work was continued by Mr. Brayshaw Gillespy throughout 1927. During the twelve months 93 carriers of organisms of known virulence were operated upon at Little Bromwich. The majority of these patients had both tonsils and adenoids removed: a few, tonsils only or adenoids only. From amongst this long series of cases released from hospital after operation, only one is known to have given rise after discharge from hospital to a reputed "return" case—which was treated at home. The alleged infecting case, a child of 3 years of age, had been one of severe faucial and laryngeal diphtheria necessitating tracheotomy. She became a persistent carrier of virulent organisms in the throat. Tonsils and adenoids were removed on the 126th day of disease. After operation the child was placed in a "clean" (non-diphtheria) ward, as is now our invariable practice. Negative sets of swabs from throat and nose were obtained on the 13th and 22nd day after operation. The child was a troublesome "nose-picker" and for this reason was detained in hospital for a further 10 days before discharge from hospital.

Thus, in Little Bromwich Hospital alone, during the two years 1926 and 1927, 183 cases of chronic carriers of virulent diphtheria bacilli have been operated upon. Only two reputed return cases have arisen after the release of these children from hospital. One at least of these two return cases was extremely doubtful. Other observers have criticised the number of consecutive sets of negative swabs which we have required before releasing such cases from hospital. The well known fact of the intermittency of the carrier state has been adduced in support of the thesis that six consecutive sets of negative swabs should be obtained before the release of an erstwhile carrier from hospital. Nobody who has had any experience of diphtheria is unaware of the fact that several negative results may be followed by a positive. The practical fact remains that in the longest series of post-operative discharges of diphtheria carriers so far recorded in any institution, release after at most two consecutive sets of swabs has resulted in a return case rate which can only be described as trivial. It is difficult to believe that the results, as seen in the return case rate could be greatly improved if as many as six consecutive sets of swabs were required before discharge from hospital. It may be of interest to compare these results, controlled by bacteriological examinations, with the results upon the return case rate in the case of potential carriers of scarlet fever who were also operated upon as reported below, and who were not the subjects of bacteriological examination prior to discharge from hospital.

SCARLET FEVER.

A total of 971 cases notified as scarlet fever was admitted to the two hospitals. In 47 instances the diagnosis was not confirmed. The net number of admissions for scarlet fever was therefore 924.

The net number of deaths from scarlet fever, after revision of diagnosis, amounted to 8. Based upon the corrected admission figure this gives a case mortality of 0.86%.

These eight fatal cases were due to the following complications:—

Acute mastoiditis with otogenic meningitis	...	...	...	...	2
Pneumonia, empyema and pneumococcal meningitis	...	...	...	...	1
Scarlet fever, erysipelas and diphtheria	...	...	...	...	1
Intestinal tuberculosis	...	...	...	...	1
Acute nephritis and uræmia	...	...	...	...	1
Acute pancarditis upon old rheumatic endocarditis	...	...	...	...	1
Septicæmia	...	...	...	...	1

Throughout the year, scarlet fever antitoxin has been employed in severe and moderately severe cases. The conclusions as to its value stated in my last report have been amply confirmed. The incidence of complications is diminished by the early employment of serum; the case remains "clean" throughout and can safely be discharged from hospital, in the absence of complications in from 28 to 30 days from onset.

Scarlet fever antitoxin may now be regarded as a remedy of proved value. How great this value is will become obvious only if scarlet fever returns, as it unhappily may do, to its former severity.

RETURN CASES OF SCARLET FEVER.

In addition to the treatment of otitis media by surgical means, which has been carried out in these hospitals for several years, Mr. Gillespy, as recorded in my last report, commenced, at my request, in 1926, the operative treatment of children convalescent from scarlet fever who had unhealthy conditions of the nasopharynx and who, therefore, although not showing necessarily any obvious signs of otitis or rhinitis, constituted, in my opinion, potential carriers of the *streptococcus scarlatine*. Such cases, it would follow, were those most likely to give rise to return cases after discharge from hospital. The results recorded on my report of last year seemed to indicate that this extended surgical interference was of value. It is now possible to bring forward for consideration the results of another year's work. It should be stated that none of these cases has been submitted to bacteriological examination for the presence of the specific streptococcus before or after operation. The operations were undertaken purely as the result of clinical examination and clinical judgment.

During 1927, 33 scarlet fever patients were stated to have given rise to "return" cases after discharge from hospital. The resulting cases in 5 instances were treated at home, so that it is not possible to express an opinion. In 6 further instances in which discharged patients were stated to have given rise to return cases, the return cases admitted to hospital shewed no evidence of scarlet fever or other infection. Thus admitting the 5 home-treated cases as genuine, the net number of discharged cases initiating "return" cases becomes 27. Based upon the corrected admission figure of 924, this is equivalent to a return case rate of 2.9%.

It is of interest to analyse these 27 infective discharged patients in the light of the clinical notes and the operative procedures carried out by Mr. Gillespy. During 1927, 78 operations were carried out at the two hospitals upon cases of scarlet fever for otological or rhinological conditions. The conditions necessitating these surgical procedures may be summarised as follows:—

Age Group.		Otitis.	Rhinitis.	Carriers	
				S.F. (potential)	Diphtheria (actual)
0—5	...	5	24	7	1
5—10	...	7	8	20	1
10—15	...	—	—	4	—
15—20	...	—	—	1	—
		12	32	32	2
		—	—	—	—

The actual procedures were as follows:—

Paracentesis.	Schwartz.	Removal of			
		F.B. in nose.	Adenoids.	Tonsils.	Tonsils & Adenoids.
5	5	1	17	3	47

It is not feasible for various reasons to operate upon every convalescent scarlet fever patient who possesses an unhealthy nasopharynx: only the most marked cases were selected.

Reverting to the 27 "infective" discharged cases, it was noted, while they were in hospital, that no less than 12 had tonsils which were described as "large," "very large," or "enormous." In two other instances it should be stated that the tonsils had been removed a few days before admission to these hospitals and that scarlet fever had apparently followed upon the operation. Of the twelve cases noted above two had been operated upon for the removal of tonsils and adenoids before release after scarlet fever.

Thus of the 78 post-operative cases enumerated above, only two gave rise to "return" cases. The percentage of cases operated upon amongst admissions for scarlet fever was 8.4.

It has already been stated that the return case rate for the year was 2.9%. Only 0.21% of this figure was ascribable to cases discharged after operative procedures.

There seems little doubt about the fact that the surgical treatment of the unhealthy nasopharynx prior to the discharge from hospital of the convalescent case of scarlet fever does very greatly diminish the liability of the patients so treated to give rise to return cases. Although routine bacteriological examination of the nasopharynx for the presence of the specific streptococcus is not yet feasible, it seems reasonable to suppose that, as in the case of diphtheria, the patient with nasopharyngeal abnormalities is the one most likely to become a carrier. If this be so, the removal of the abnormality, as in the diphtheria carrier, is the procedure which, so far, is most likely to terminate the carrier state and thus decrease the liability to the occurrence of return cases.

Nevertheless, there are many obvious objections and difficulties to any considerable multiplication of these nose and throat operations. It is to be hoped that our experience with the local application of ultra-violet rays may show that this mode of therapy is capable of providing a substitute which is unexceptionable.

IMMUNISATION OF THE NURSING AND DOMESTIC STAFFS.

The application of the Schick test and the active immunisation of those members of the nursing and domestic staffs who are shewn by the test to be susceptible to diphtheria is now such an established procedure that only brief reference is called for. During 1927, not a single member of either the nursing or domestic staff at Little Bromwich or Lodge Road Hospitals contracted clinical diphtheria. One medical officer, who was markedly Schick positive, decided not to be immunised and, as a result, contracted clinical diphtheria.

All new entrants during the year have similarly had a Dick test performed. Those giving a Dick positive test have been actively immunised against scarlet fever by means of multiple skin test doses of scarlet toxin. On the average, some 11% or 12% of new entrants to the nursing or domestic staffs are found to be Dick positive. Thus the problem of immunising them is not very serious as regards numbers. Where however a probationer happens to be both Schick and Dick positive on entry, in order that she may commence duty in the wards it becomes necessary to choose between the infections to which she may be exposed in the course of her duties before sufficient time has elapsed for active immunisation to be brought about. Needless to say, the choice cannot be in doubt; our Schick positive entrants are invariably put on duty in scarlet fever wards. If they are also Dick positive, simultaneous active immunisation against both diseases is carried out.

Three Dick positive probationers contracted scarlet fever during the year before active immunity could be produced.

The range of skin test doses employed has been as follows:—500, 2,000, 5,000, and 7,500, at intervals of a week. Retesting is carried out a month after the last injection of toxin. Owing to the small percentage of Dick positive reactors on entry the figures for consideration are naturally small also. Of 17 probationers who were Dick positive on entry all save one had become Dick negative a month after the last

immunising dose. The one faintly positive reactor was also tested a year later. She still gave a faintly positive Dick test. Three probationers were retested 6 months after immunisation; two remained negative; one had become positive again. Four tested one year after immunisation were all Dick negative. One other probationer who was Dick positive on entry and who for some reason had not been actively immunised, was retested after the lapse of a year. She was then found to give a negative test, having, in all probability, become immune as the result of exposure to infection in the course of her duties. It is, of course, reasonable to suppose that in the case of Dick positive probationers who are working in scarlet fever wards while the course of active immunisation is being completed that active immunity is in part brought about by small repeated doses of infection. Unfortunately, it is impossible to regulate the size or frequency of these naturally acquired immunising doses; hence the susceptible subject from time to time is infected with a dose sufficiently large to bring about a clinical attack of scarlet fever. The indications are that the present range of skin test doses of toxin stops at too small a maximum. It is probable that the final dosage should be in the neighbourhood of 15,000 or 20,000 skin test doses in order to bring about rapid and lasting active immunity. No reactions have been experienced as the result of the injection of the series of skin test doses stated above.

(The Schick test and active immunisation against diphtheria has been carried out on a comparatively large scale throughout the year at Clinics and at Residential Institutions. This work is described in a separate report on page 54).

TUBERCULOSIS.

The next three tables show the incidence and mortality from Tuberculosis during the past 27 years.

TUBERCULOSIS (ALL FORMS).

		New Cases.	Rate per 1,000.	Deaths.	Death-rate per 1,000
1901-1905 (Average)		—	—	1,384	1.78
1906-1910	„	—	—	1,235	1.51
1911-1915	„	—	—	1,307	1.51
1916-1920	„	3,343	3.73	1,261	1.40
1921-1925	„	2,060	2.20	1,046	1.12
1917	... ..	3,543	3.95	1,405	1.56
1918	... ..	3,254	3.75	1,385	1.60
1919	... ..	3,116*	3.37	1,188*	1.28
1920	... ..	2,974	3.28	1,001	1.10
1921	... ..	2,247	2.45	1,035	1.13
1922	... ..	1,961	2.12	1,049	1.13
1923	... ..	2,166	2.32	1,006	1.08
1924	... ..	2,129*	2.22	1,055*	1.10
1925	... ..	1,797	1.89	1,083	1.14
1926	... ..	1,704	1.78	1,024	1.06
1927	... ..	1,607	1.66	1,017	1.05

*53 weeks.

During the past ten years the number of new cases has been reduced to less than half, while the number of deaths has fallen by about one-third.

PULMONARY TUBERCULOSIS

		New Cases.	Rate per 1,000.	Deaths.	Death-rate per 1,000
1901-1905 (Average)		—	—	1,039	1.34
1906-1910	„	—	—	947	1.16
1911-1915	„	—	—	1,057	1.22
1916-1920	„	2,936	3.27	1,062	1.18
1921-1925	„	1,739	1.86	903	0.96
1917	... ..	3,074	3.42	1,169	1.30
1918	... ..	2,905	3.35	1,171	1.35
1919	... ..	2,704*	2.92	1,019*	1.10
1920	... ..	2,609	2.87	843	.93
1921	... ..	1,969	2.15	890	.97
1922	... ..	1,669	1.80	899	.97
1923	... ..	1,785	1.91	860	.92
1924	... ..	1,780*	1.85	934*	.97
1925	... ..	1,491	1.57	930	.98
1926	... ..	1,421	1.48	905	.94
1927	... ..	1,343	1.39	857	.89

* 53 weeks

NON-PULMONARY TUBERCULOSIS.

		New Cases.	Rate per 1,000.	Deaths.	Death-rate per 1,000
1901-1905 (Average)		—	—	345	.45
1906-1910	"	—	—	289	.35
1911-1915	"	—	—	249	.29
1916-1920	"	407	.45	199	.22
1921-1925	"	321	.34	143	.15
1917	... ..	469	.53	236	.26
1918	... ..	349	.40	214	.25
1919	... ..	412*	.45	169*	.18
1920	... ..	365	.40	158	.17
1921	... ..	278	.30	145	.16
1922	... ..	292	.32	150	.16
1923	... ..	381	.41	146	.16
1924	... ..	349*	.36	121*	.13
1925	... ..	306	.32	153	.16
1926	... ..	283	.30	119	.12
1927	... ..	264	.27	160	.17

* 53 weeks.

TUBERCULOSIS CASES.

The following statement shows the number of cases notified as suffering from various forms of tuberculosis during 1927:—

			New Cases Notified in 1927.	Deaths not Notified as Cases.
Pulmonary Tuberculosis	... ..		1,343	34
Tubercular Meningitis	... ..		37	33
Tubercle of the Abdomen	... ..		59	12
Tubercle of the Spinal Column	... ..		22	6
Tubercle of the Joints	... ..		44	1
Disseminated Tuberculosis	... ..		10	22
Tubercle of the Glands and other parts	... ..		92	10

The incidence of Pulmonary Tuberculosis on males and females was as follows:—

			Incidence-rate.		Death-rate.	
			Males.	Females.	Males.	Females.
1922	... ..		2.08	1.55	1.27	0.71
1923	... ..		2.21	1.65	1.17	0.70
1924	... ..		2.20	1.54	1.25	0.72
1925	... ..		1.88	1.29	1.26	0.73
1926	... ..		1.64	1.34	1.13	0.78
1927	... ..		1.66	1.15	1.09	0.70

The distribution of Tuberculosis in Wards is shown in the next statement.

DISTRIBUTION OF TUBERCULOSIS.

		Case-rate per 1,000 in 1927.					
		Non-					
		Pulmonary. Pulmonary. Total.					
Central Wards	...	St. Paul's	...	2.01	.51	2.52	Average 2.51
		St. Mary's	...	2.87	.34	3.21	
		Duddeston and Nechells		2.14	.34	2.48	
		St. Bartholomew's	...	1.97	.31	2.28	
		St. Martin's & Deritend		2.24	.43	2.67	
		Market Hall	...	1.90	.11	2.01	
		Ladywood	...	1.90	.48	2.38	

Middle Ring	...	Lozells	1.36	.45	1.81	Average 1.57
		Aston	1.69	.27	1.96	
		Washwood Heath ...	1.05	.22	1.27	
		Saltley	1.45	.38	1.83	
		Small Heath	0.95	.20	1.15	
		Sparkbrook	1.14	.17	1.31	
		Balsall Heath	1.53	.22	1.75	
		Edgbaston	1.02	.11	1.13	
		Rotton Park	1.52	.37	1.89	
Outer Ring	...	All Saints'	1.35	.28	1.63	Average 1.11
		Soho	1.43	.22	1.65	
		Sandwell	0.87	.19	1.06	
		Handsworth	0.61	.27	0.88	
		Erdington North ...	0.63	.15	0.78	
		Erdington South ...	0.72	.30	1.02	
		Yardley	0.87	.08	0.95	
		Acocks Green	0.53	.29	0.82	
		Sparkhill	0.91	.13	1.04	
		Moseley and King's Heath	0.87	.11	0.98	
		Selly Oak	1.33	.30	1.63	
		King's Norton	1.16	.12	1.28	
		Northfield	1.30	.28	1.58	
		Harborne	0.70	.12	0.82	

				Average Case-rate per 1,000.		
				Pulmonary.	Non-Pulmonary.	Total.
Central Wards	...	...	...	2.15	.36	2.51
Middle Ring	...	...	...	1.30	.27	1.57
Outer Ring	...	...	...	0.91	.20	1.11

In the Central Wards both the cases and the deaths are still about twice as high as in the outer ring. The Central areas are, however, improving more rapidly than the outer districts as can be seen from the next two tables.

DEATH-RATE FROM PULMONARY TUBERCULOSIS.

				Central Wards.	Middle Ring.	Outer Ring.	Whole City.
1901-05	...	...	...	1.94	1.12	.75	1.34
1906-10	...	...	...	1.67	1.02	.71	1.16
1911-15	...	...	...	1.89	1.12	.76	1.22
1916-20	...	...	...	1.81	1.10	.78	1.18
1921-25	...	...	...	1.42	0.95	.65	0.96
1926	...	...	...	1.34	0.88	.69	0.94
1927	...	...	...	1.34	0.79	.66	0.89
Decrease*	...	...	...	27%	15%	13%	28%

*1921-25 compared with 1901-5.

DEATH-RATE FROM NON-PULMONARY TUBERCULOSIS.

				Central Wards.	Middle Ring.	Outer Ring.	Whole City.
1901-05	...	...	...	.56	.41	.33	.45
1906-10	...	...	...	.43	.33	.27	.35
1911-15	...	...	...	.43	.26	.21	.29
1916-20	...	...	...	.33	.20	.17	.22
1921-25	...	...	...	.21	.13	.14	.15
1926	...	...	...	.18	.11	.09	.12
1927	...	...	...	.24	.14	.13	.17
Decrease*	...	...	...	63%	68%	58%	67%

*1921-25 compared with 1901-5.

It will be seen from the following figures that a good many of the cases of pulmonary tuberculosis which ended fatally in 1927 had been notified some years before.

DEATHS IN 1927 FROM PULMONARY TUBERCULOSIS WITH YEAR OF NOTIFICATION.

		No. of Deaths.	Percentage.
Notified prior to 1917	...	49	6
Notified in 1917	...	9	1
„ 1918	...	9	1
„ 1919	...	17	2
„ 1920	...	20	2
„ 1921	...	10	1
„ 1922	...	19	2
„ 1923	...	28	3
„ 1924	...	67	8
„ 1925	...	78	9
„ 1926	...	217	26
„ 1927	...	300	35
Un-notified	...	34	4
		<hr/> 857	<hr/> 100

Roughly about 25 per cent. of the deaths which occurred last year had been notified as cases more than three years ago.

WORK OF TUBERCULOSIS VISITORS.

Each patient (unless under preventive treatment by his own doctor) is visited at intervals of either a few weeks or several months according to his needs, by a trained tuberculosis nurse whose duty it is to assist the patient in his treatment and in the prevention of the spread of the disease in the home. The work done by the Tuberculosis Visitors is as follows:—

New cases reported	...	...	...	...	1,742
Primary visits paid	...	...	...	...	1,758
Periodic re-visits paid	...	...	...	...	20,889
Special re-visits	...	...	...	...	10,262
Unsuccessful calls	...	...	...	...	2,106
					<hr/>
Total Calls	...	...	...	...	36,757

Patients provided with a shelter during year	...	...	...	21
Patients granted extra nourishment	...	...	...	80
Patients found to be sharing bed	...	...	...	1,075
Patients found to be sharing bedroom	...	...	...	245
Fresh beds sent out on hire or loan	...	...	...	111
Total beds now out on hire or loan	...	...	...	485

Except in a few cases which occurred in Institutions, Common Lodging Houses, etc., a record was obtained of the home conditions under which the patients were living.

As regards their housing accommodation, the number of cases in which the family had a house to themselves is shown below:—

	Pulmonary cases.	Other cases.	Total.
One family in house	1,082	235	1,317
Two families	176	24	200
Three families	9	—	9
Four families	1	—	1

Roughly it may be said that one-sixth of the patients notified were living in houses occupied by two or more families.

As regards ventilation the figures were as follows:—

	Pulmonary cases.	Other cases.	Total.
Houses with through ventilation ...	821	163	984
Back-to-back houses ...	447	96	543

Approximately there are 40,000 back-to-back houses in the City, so that about one in 75 of them was invaded by tuberculosis last year, against one in 180 of the houses with through ventilation. It does not, of course, necessarily follow that the excessive prevalence in the former is wholly due to lack of ventilation or bad housing, as the lowest wage-earners, including invalids from tuberculosis, are likely to gravitate to the cheapest and the poorest housing.

The size of the houses in which the cases occurred is indicated in the next statement:—

	Pulmonary cases.	Other cases.	Total.
Three-roomed houses ...	442	97	539
Four-roomed houses ...	229	41	270
Five-roomed houses ...	362	70	432
Six-roomed houses ...	172	38	210
Seven rooms or more ...	63	13	76

It is estimated that there are about 40,000 three-roomed houses in the City, about 100,000 houses of four and five rooms, and about 80,000 of six or more rooms. Based on these numbers, the incidence of the disease would be as follows:—

	Number of cases per 1,000 houses.		
	Pulmonary.	Other forms.	Total.
Houses of three rooms ...	11	2	13
Houses of four and five rooms ...	6	1	7
Houses of six rooms and over ...	3	1	4

Here again, poor housing is not to be regarded as the sole factor in the cases of tuberculosis. Bad housing can favour the production of tuberculosis; but on the other hand the tuberculous patient tends through lack of means to gravitate into bad housing.

Many of the small houses in which tuberculosis occurred were very crowded, as can be seen from the figures below:—

THREE-ROOMED HOUSES INVADDED.

	Pulmonary.	Other forms.	Total.
Houses with 1 inmate ...	7	0	7
„ „ 2 inmates ...	38	4	42
„ „ 3 „ ...	57	7	64
„ „ 4 „ ...	90	14	104
„ „ 5 „ ...	82	19	101
„ „ 6 „ ...	57	23	80
„ „ 7 „ ...	52	12	64
„ „ 8 „ ...	32	9	41
„ „ 9 „ ...	16	1	17
„ „ 10 „ ...	6	6	12
„ „ 11 „ ...	5	2	7

It is most desirable that any patient suffering from open tuberculosis should have a bedroom to himself, but this is obviously impossible where there are such large families living in houses containing only two bedrooms.

In a considerable number of instances there was more than one patient in the house, the figures being as follows:—

	Pulmonary cases.	Other cases.	Total.
One patient in house ...	1,114	218	1,332
Two patients ...	128	35	163
Three patients ...	23	4	27
Four patients ...	2	2	4
Five patients ...	1	—	1

From this it will be seen that of the cases notified one in every eight occurred at a house in which one or more other cases had previously been notified and still existed.

The length of time during which the patient had been ill before being notified was ascertained for a good many of the pulmonary cases with reasonable exactness and was as follows :—

INTERVAL BETWEEN ONSET AND NOTIFICATION.

1 to 3 months	...	...	...	...	339 cases.
4 to 6 "	...	...	...	...	177 "
7 to 9 "	...	...	...	...	54 "
10 to 12 "	...	...	...	...	119 "
Over 12 months	...	...	...	...	81 "
Doubtful	...	...	...	...	498 "

It seems clear from these figures that a large number of cases have already been ill for a long time before they come to the notice of the Public Health Department.

Enquiry was made at all the houses as to whether the patient had been in intimate association with a known case of tuberculosis, and the replies were as follows :—

	Pulmonary cases.	Other cases.	Total.
Intimate association at home ...	291	56	347
" " at work ...	2	—	2
" " elsewhere ...	78	3	81
No such association known ...	897	200	1,097

The impression left on the minds of the visitors as to the home conditions generally, were recorded as follows :—

	Pulmonary cases.	Other cases.	Total.
Home conditions relatively good ...	455	94	549
" " " fair ...	676	136	812
" " " bad ...	137	29	166

TREATMENT OF TUBERCULOSIS.

The patients admitted to the City Sanatoria during the 52 weeks of the statistical year were as follows :—

PATIENTS TREATED AT SANATORIA.

	Yardley Road.	Salterley Grange.	Romsley Hill.	West Heath.	Total.
In sanatorium at beginning of year ...	318	45	79	102	544
Admitted during year ...	918	219	262	313	1,712
Discharged ...	784	203	244	216	1,447
Died ...	143	2	9	110	264
Remaining at end of year ...	309	59	88	89	545

In addition to the above, 36 cases were admitted to the Woodlands and Forelands, 7 to the Orthopædic Hospital, 11 to the General and Jaffray Hospitals, 9 to the Queen's Hospital, 21 to the Children's Hospital, and 10 to Moseley Hall Convalescent Home.

THE ANTI-TUBERCULOSIS CENTRE.

(Report by Dr. G. B. Dixon, Chief Tuberculosis Officer).

The Anti-Tuberculosis Centre, centrally situated in the City is open daily for five days during the week, and on Saturdays for half the day. Six sessions weekly are reserved for patients attending for treatment, supervision, and observation. Thirty-nine sessions, and occasionally more, are set apart weekly for consultations and examinations. In addition many consultations and examinations are undertaken at the homes of patients by members of the medical staff.

Admissions to the City Sanatoria are decided upon only after examination at the Centre, or at the patient's home, and the sanatorium to which a person is sent depends entirely upon the condition of the patient's disease, etc.

Much has been written about the inadvisability of admitting to sanatoria any patients but those whose circumstances and clinical condition suggest that arrest of the disease is probable, and persistent advocacy of hospitals for the segregation of advanced cases of tuberculosis continues. In practice we find the most suitable solution of these two problems lies in the provision of pavilions or wards for the "hospital" type of case in most of our sanatoria. The advanced and bedridden patient is, as a rule, willing to enter such a pavilion when it is attached to a sanatorium, but experience has shown us that a large

majority of those who fall within the category of "hospital" cases not only refuse to enter a hospital set apart solely for the care of advanced cases, but resent the suggestion that they should. Hospitals set apart for this purpose record a large number of deaths, and quickly acquire a sinister reputation, which is repellant not only to the sufferer, but to those from whom the medical, nursing, and domestic staffs are recruited.

On return from sanatoria, patients are re-examined at the Centre, and many old patients who have discontinued treatment for varying periods, are re-examined from time to time.

ATTENDANCES AND EXAMINATIONS.

During the year 1927, the total number of attendances made by patients for diagnosis, consultation, observation, advice and treatment was 27,314, the total number of attendances for supervision, observation, advice and treatment was 16,394, the number of examinations made was 10,920, and in addition, there were 3,264 X-ray examinations. As compared with the previous year there was a decrease in the number of attendances for supervision, observation and treatment, and a slight increase in the number of examinations.

Attendances for supervision, observation, treatment	16,394
Attendances for consultation and examination	10,920
Attendances for X-ray examination	3,264

During the year 1927, 1,343 new cases of pulmonary tubercle were notified to the Medical Officer of Health for the City, and of this number 1,000 or 74.46 per cent. were examined at the Centre. There were 264 cases of non-pulmonary tuberculosis notified during the year, and 71 or 26.8 per cent. were examined at the Centre.

TREATMENT RECOMMENDED.

We examined 7,216 old and new patients at the Centre during the year. The following table shows the number of newly notified and suspect cases of all varieties of tuberculosis, and the number of patients coming up for re-examination. It also shows the numbers recommended for the different forms of treatment. No less than 941 patients were examined at their own homes.

						First Examinations.		Re-examinations.	
						Newly notified.	Suspects or Contacts.	Old Cases.	Suspects or Contacts.
Sanatorium Treatment						593	297	531	24
Dispensary Treatment						9	10	133	5
Dispensary for supervision						—	—	1187	104
Out-patient Light Treatment						2	6	5	2
Domiciliary Treatment						113	38	1104	159
Home Treatment for other than P.T.						—	1	86	—
Hospital Treatment for other than P.T.						—	1	23	8
No Treatment Required						354	1220	868	333
						1071	1573	3937	635

CLASSIFICATION OF PATIENTS ACCORDING TO GROUP OF DISEASE.

The following tables show the classification of the patients examined according to the Group of disease; adults and children are shown separately.

ADULTS.

						First Examinations.		Re-examinations.	
						Newly notified.	Suspects or Contacts.	Old Cases.	Suspects or Contacts.
Group I.						48	41	949	55
Group II.						273	137	1369	143
Group III.						275	85	662	31
Group IV.						45	13	78	12
No definite signs of active tuberculosis						251	712	152	151
						892	988	3210	392

CHILDREN.

						First Examinations.		Re-examinations.	
						Newly notified.	Suspects or Contacts.	Old Cases.	Suspects or Contacts.
Group I.						21	43	293	33
Group II.						17	18	189	24
Group III.						13	3	33	3
Group IV.						26	12	130	6
No definite signs of active tuberculosis						102	509	82	177
						179	585	727	243

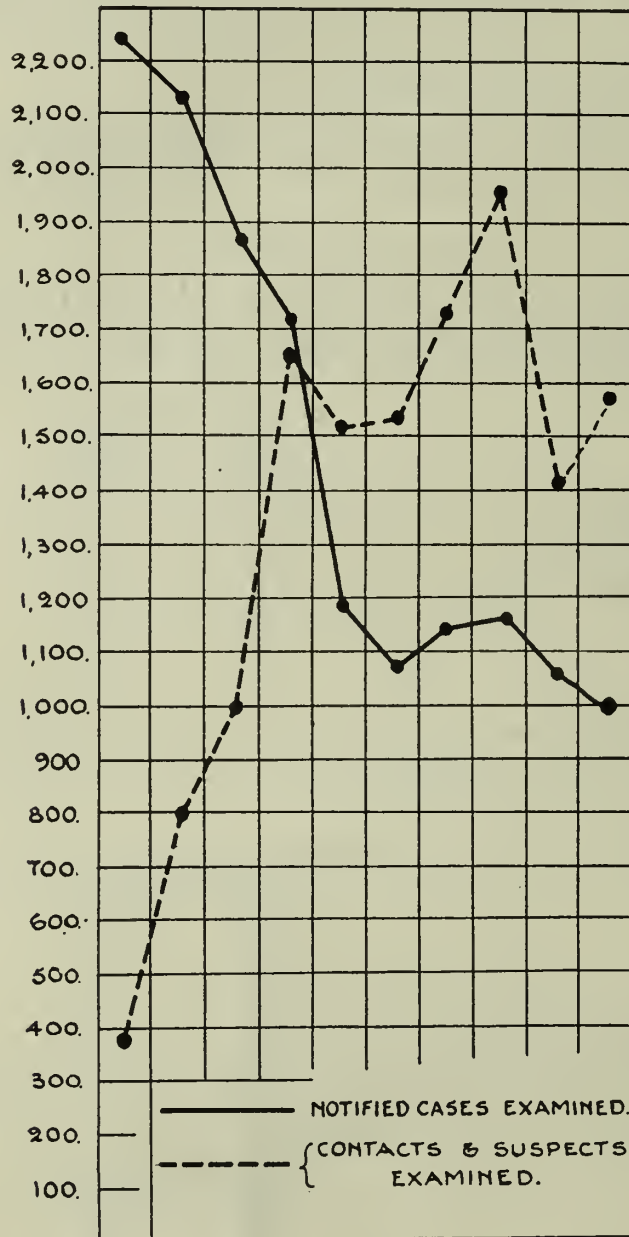
In certain instances patients included in the various Groups are suffering from other forms of tuberculosis in addition to pulmonary, but for convenience are classified as pulmonary cases when this type of the disease is present in association with other forms.

"CONTACTS" AND NOTIFIED CASES.

During the past few years there has been a marked reduction in the number of patients notified as suffering from pulmonary tubercle which is very satisfactory. Whilst the number of notified cases has diminished, the number of "Suspects" notified has increased, suggesting that the diagnosis of pulmonary tubercle is being left more and more in the hands of the medical staff at the Centre. In the following graph the figures for notified cases and suspects are compared over a period of years.

PULMONARY TUBERCULOSIS.

1917 1918 1919 1921 1922 1923 1924 1925 1926 1928



The following table shows the working capacity of the new notified cases when they were examined for the first time. It is interesting to note that among adults 20.17 per cent. were sent to us whilst their working capacity was still unimpaired, and 30.71 per cent. came to us when totally incapacitated. In the case of the children, this point is more emphasised; 41.89 per cent. had an unimpaired working capacity and 19.5 per cent. were totally incapacitated, the working capacity indicated here being ability or otherwise to attend school regularly.

				Newly notified patients.		Contacts and Suspects.	
				Adults.	Children.	Adults.	Children.
Unimpaired working capacity	...	...	...	180	75	555	427
Impaired working capacity	...	...	...	438	69	353	153
Totally incapacitated	...	...	...	274	35	80	5
				892	179	988	585

FAMILY HISTORY.

A survey of the family and social history of 4,807 patients who were examined during the year shows that there was no history of existing tuberculosis or knowledge of relatives dying of, or suffering from, tuberculosis in connection with 2,612 or 54.33 per cent. In 2,195 or 45.6 per cent. there was a history of some near relative or intimate friend either being affected with tuberculosis, or having succumbed to it. In 638 instances or 13.2 per cent. the relative affected was the father, and in 404 or 8.4 per cent. the relative affected was the mother, and in 664 or 13.8 per cent. a brother or sister was affected. In 676 instances two or more relatives were known to have suffered from tuberculosis.

DENTAL TREATMENT.

The services of a part-time dental surgeon are utilised at the Centre for the necessary treatment of our patients. The treatment is conservative in type, and consists mainly of extractions, fillings and scalings. There is no fund to assist in the provision of artificial dentures. Those patients who wish to provide their own can do so under conditions advantageous to themselves by arrangement with the dentist. The condition of the teeth and gums of most of our patients is carefully noted, and in the table below is briefly summarised the dental condition of patients seen during the year so far as dental caries, masticatory power, and the state of the gums was concerned. The dental surgeon informs me that there were 699 extractions, 14 fillings and 68 scalings, and dentures were supplied in 33 instances.

CONDITION OF TEETH AND GUMS.

Number of Teeth with infected pulp chambers.			Masticatory power in Molars and Bicuspids.			State of Gums.		
None.	1 to 4.	More than 4.	Six or more.	Less than 6.	None.	Healthy.	Gingivitis.	Pyorrhœa
1,161	2,861	462	2,772	1,244	471	2,897	998	596

SPUTUM RESULTS.

Amongst the adult patients examined at the Centre during the year who were found to be suffering from tuberculosis, there were 933 or 22.1 per cent. who presented tubercle bacilli in their sputum, and amongst the total number of children examined during the year 10 or 1.1 per cent. presented a sputum containing tubercle bacilli.

The difficulty of obtaining sputum from children, even when it exists, is recognised, and in the sanatoria all children, whether they are admitted for observation or treatment, have the faeces examined for tubercle bacilli and are submitted to a Von Pirquet test.

In a number of cases where a positive Von Pirquet reaction occurs associated with a general reaction, there is demonstrable evidence of active clinical tuberculosis. Acid-fast bacilli in the faeces of children have only been discovered in a small percentage of those examined, but when present, in a large percentage of the cases they have been tubercle bacilli, as demonstrated by animal inoculation.

ADULTS.

						First Examinations.		Re-examinations.	
						Newly notified.	Suspects or Contacts.	Old Cases.	Suspects or Contacts.
Tubercle Bacilli present	...	...	...	...	...	391	126	415	1
Tubercle Bacilli absent	...	...	...	...	...	270	512	714	91
No sputum	...	...	...	...	...	231	350	364	69
									<hr/>
									3534

CHILDREN.

						First Examinations, Newly notified.	Suspects or Contacts.	Old Cases.	Re-examinations, Suspects or Contacts.	Total.
Tubercle Bacilli present	...	...	...	...	...	4	2	4	—	10
Tubercle Bacilli absent	...	...	...	...	...	30	133	51	38	252
No sputum	...	...	...	...	...	145	451	269	142	1007
										1269

LABORATORY WORK—YARDLEY ROAD SANATORIUM AND THE CENTRE.

At the Sanatorium 2,818 specimens of urine and 5,862 specimens of sputum were examined during the year. Of the sputum specimens examined 1,063 presented tubercle bacilli after staining alone, and the remaining specimens were tested by the sedimentation method devised by Ellerman and Erlandsen. Of

these, 1,432 or 29 per cent. after this test were found to contain tubercle bacilli; these were not found in every instance after one examination and in some instances the test had to be repeated on several occasions before a positive result was obtained, as shown in the following table:—

Tubercle Bacilli found after 1st sedimentation in 862 instances.

"	"	"	"	2nd	"	"	362	"
"	"	"	"	3rd	"	"	140	"
"	"	"	"	4th	"	"	68	"

In the Laboratory at the Centre during the year 7,710 specimens of sputum were examined; 67 other specimens were also examined. Of sputum specimens, 1,622 which were previously negative after one staining were examined by the concentration method of Davis, the results being as follows:—

Tubercle Bacilli demonstrated after 1st concentration	...	44
" " " " 2nd	"	8
" " " " 3rd	"	Nil

COMPLETED CASES.

During the year 2,413 patients completed a course of treatment and supervision, etc., at the Centre, of whom 1,948 were adults and 465 were children.

In the next table, the working capacity at the commencement, and at the end of a completed period of treatment is given for those old patients who were examined during the year. The group of disease quoted was determined at the first examination.

WORKING CAPACITY.

	GROUP I.		GROUP II.		GROUP III.		GROUP IV.	
	Adults	Children	Adults	Children	Adults	Children	Adults	Children
Unimpaired working capacity becoming impaired	... 15	3	10	1	1	—	—	2
Unimpaired working capacity becoming totally incapacitated	... —	—	—	—	—	—	—	—
Unimpaired capacity for work persisting	... 27	12	5	3	—	—	5	3
Impaired capacity for work becoming unimpaired	... 317	90	102	27	11	1	5	26
Impaired capacity for work becoming totally incapacitated	... 5	—	52	1	23	—	—	—
Impaired capacity persisting	... 291	102	544	75	152	12	14	37
Total incapacity becoming impaired	... 28	11	98	13	99	3	22	12
Total incapacity becoming unimpaired	... 16	12	26	6	8	3	6	2
Total incapacity persisting	... 4	—	12	—	44	4	6	4
	703	230	849	126	338	23	58	86

AFTER CARE.

Results of investigation into present condition of patients treated in the past.

In the following tables are set out, as briefly as possible, the main points in connection with an investigation undertaken to ascertain the condition of those past patients who received treatment at the Centre between the years 1913 and 1926 inclusive.

PRESENT CONDITION OF PATIENTS TREATED IN PREVIOUS YEARS WHOSE SPUTUM CONTAINED TUBERCLE BACILLI.

Year.	No. of patients treated.	Now working regularly.	Working irregularly.	Totally incapacitated.	Patients who have been lost sight of.	Dead.
1913	505	22.2%	9.4%	2.0%	28.4%	38.0%
1914	575	22.4%	15.3%	2.0%	17.5%	42.8%
1915	316	20.9%	15.2%	1.3%	16.1%	46.5%
1916	211	23.3%	11.4%	.9%	15.6%	48.8%
1917	221	27.1%	19.0%	1.3%	14.4%	38.0%
1918	198	28.8%	13.6%	1.0%	17.2%	39.4%
1919	238	19.3%	24.4%	.5%	12.6%	43.2%
1920	291	18.2%	20.6%	2.4%	10.7%	48.1%
1921	153	12.4%	20.3%	5.8%	11.8%	49.7%

PRESENT CONDITION OF PATIENTS TREATED IN PREVIOUS YEARS WHOSE SPUTUM DID NOT CONTAIN TUBERCLE BACILLI.

Year.	No. of patients treated.	Now working regularly.	Working irregularly.	Totally incapacitated.	Patients who have been lost sight of.	Dead.
1913	1,140	38.7%	6.3%	1.1%	38.5%	15.3%
1914	896	52.2%	11.9%	1.2%	21.8%	12.8%
1915	1,211	55.1%	9.0%	.8%	18.2%	16.9%
1916	996	58.8%	10.5%	.5%	19.4%	10.8%
1917	810	58.6%	10.6%	.3%	22.5%	8.0%
1918	814	55.5%	15.4%	.3%	18.0%	10.8%
1919	756	51.9%	20.8%	.1%	15.8%	11.4%
1920	781	45.9%	24.3%	2.0%	17.3%	10.5%
1921	642	43.0%	26.3%	2.2%	19.2%	9.3%

PRESENT STATE OF PATIENTS ON THE DISPENSARY REGISTER IN PAST YEARS WHOSE SPUTUM
CONTAINED TUBERCLE BACILLI.

ADULTS.

	Patients who were alive in 1927. Groups			Patients who have died. Groups			Patients who have been lost sight of. Groups			Total.
	I.	II.	III.	I.	II.	III.	I.	II.	III.	
1922	7	35	33	10	89	298	2	10	20	504
1923	14	56	78	17	82	333	4	14	11	609
1924	21	51	93	4	70	420	2	4	20	685
1925	17	81	92	4	60	327	1	6	12	600
1926	19	166	72	3	82	238	—	11	8	599
	78	389	368	38	383	1616	9	45	71	2997
CHILDREN.										
1922	—	1	1	—	—	5	—	—	—	7
1923	1	—	2	—	—	8	—	1	—	12
1924	—	1	1	—	2	3	—	—	—	7
1925	—	1	4	—	—	7	—	—	—	12
1926	1	10	7	—	—	2	—	—	—	20
	2	13	15	—	2	25	—	1	—	58

PRESENT STATE OF PATIENTS ON THE DISPENSARY REGISTER WHOSE SPUTUM DID NOT CONTAIN
TUBERCLE BACILLI.

	Patients who were alive in 1927.				Patients who have died.				Patients who have been lost sight of.				Total.
	Adults.		Children.		Adults.		Children.		Adults.		Children.		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
1922	71	111	62	35	64	54	8	1	22	26	2	3	459
1923	70	117	69	48	57	64	5	9	2	23	1	4	469
1924	109	106	46	43	41	37	5	1	12	7	2	3	412
1925	113	104	39	41	76	79	1	12	12	14	1	2	494
1926	114	148	41	22	33	45	2	3	13	3	1	1	426
	477	586	257	189	271	279	21	26	61	73	7	13	2260

PRESENT STATE OF PATIENTS TREATED IN PREVIOUS YEARS WHO WERE SUFFERING FROM
NON-PULMONARY TUBERCULOSIS.

	Bones & Joints.					Abdominal.					Other Organs.					Peripheral Glands.				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Patients who were alive in 1927	7	11	13	33	38	6	10	4	16	10	—	2	6	9	9	8	11	18	38	34
Patients who have died	1	6	3	5	2	1	4	2	3	2	—	—	1	3	—	—	1	—	2	1
Patients who have been lost sight of	1	2	—	2	1	—	1	2	1	2	—	—	—	2	1	3	2	3	1	2
Patients transferred to pulmonary	—	—	—	1	—	—	—	—	2	—	—	—	—	1	—	—	—	—	4	—
Totals	9	19	16	41	41	7	15	8	22	14	—	2	7	15	10	11	14	21	45	37

RADIOGRAPHIC SECTION.

Radiography in connection with the differential diagnosis of pulmonary disease is essential if correct conclusions are to be reached. It cannot take the place of other methods of diagnosis, but with the combined use of clinical, laboratory, and radiographic facilities, errors in diagnosis can be diminished considerably.

It is of equal importance too in the diagnosis of bone and joint tuberculosis, and where it is systematically used in this direction the percentage of errors will be lessened.

In addition to this, more careful clinical examinations and diagnoses will result if, after a graphic or written record of the clinical examination a radioscopic or radiographic examination is immediately made.

Radioscopic examination is also essential in association with the induction of artificial pneumothorax or "lung collapse," a form of treatment which has proved useful in a small percentage of cases, and which we have practised now for many years past. In association too with "lipiodol" injections into the bronchial system, it assists us in arriving at a correct conclusion.

SUMMARY.

1. There was a slight decrease in the number of patients' attendances during the year 1927 as compared with 1926.
2. No less than 74.46 per cent. of the total number notified in the City during the year as suffering from pulmonary tubercle were examined at the Centre.
3. We visited and examined 941 patients in their own homes.
4. During the year 3,264 X-Ray examinations of our patients were made.
5. Amongst adult patients, suffering from tuberculosis 22.1 per cent. presented tubercle bacilli in their sputum, and amongst the children 1.1 per cent.
6. Of the patients treated during the periods 1922-1926, some 3,055 presented sputum containing tubercle bacilli. Of this number 28.4 per cent. are still alive, 67.5 per cent. are known to be dead, and 4.2 per cent. have been lost sight of.
7. During the same period, 2,260 patients whose sputum contained no tubercle bacilli were treated. Of this number, 66.8 per cent. are known to be still alive, 26.4 per cent. of the patients are dead, and 6.8 per cent. have been lost sight of.

SANATORIA FOR TUBERCULOSIS.

Report by DR. G. B. DIXON, Chief Tuberculosis Officer.

The Birmingham Public Health Committee has 604 beds available for the treatment and prevention of pulmonary tuberculosis. These beds are distributed in four different sanatoria, namely, Yardley Road Sanatorium, West Heath Sanatorium, Salterley Grange Sanatorium, near Cheltenham, and Romsley Hill Sanatorium, Halesowen. The Yardley Road Sanatorium is situated in a suburban part of the city, about $3\frac{1}{2}$ miles from its Centre, and has accommodation for 325 patients; the beds are available for male and female adults and children. There are 154 beds for male adults, 10 of which are reserved for the admission of patients for observation purposes, and the remainder are utilised for the treatment of those in the intermediate and advanced stages of tuberculosis. There are 52 beds provided for female adults, including 8 beds reserved for observation purposes. The female patients admitted are those in the early and intermediate stages of tuberculosis. There are 119 beds for the treatment of children, and included in those are 18 beds available for the purpose of observation. Children in all stages of tuberculosis are admitted, and a number of beds are occupied by patients suffering from bone, joint, glandular and abdominal tuberculosis.

The West Heath Sanatorium is situated about 6 miles from the centre of the City; it contains 115 beds, 91 of which are set apart for the treatment of female adult patients suffering from advanced tuberculosis, while 24 beds are available for male adults.

The Salterley Grange Sanatorium with 68 beds is situated in the Cotswold Hills, about $3\frac{1}{2}$ miles from Cheltenham, and has accommodation for 38 males and 30 females. The patients selected are all of adult age, and are the most promising from a medical standpoint of all our patients, the majority suffering from tuberculosis in an early stage.

Romsley Hill Sanatorium is situated in the Clent Hills, 11 miles from the centre of the City, and has accommodation for 63 males and 33 females. Those in all stages of the disease are admitted.

Admission to these different Sanatoria is arranged by the staff of Tuberculosis Officers, after examination of the patients at the Municipal Anti-Tuberculosis Centre, 44a, Broad Street. The treatment given to patients in the Sanatoria is on similar lines, and includes hygienic and dietetic treatment, graduated rest, exercise and occupation, the employment of appropriate drugs when indicated, or specific treatment by means of the various tuberculins and vaccines, etc. Heliotherapy, treatment by ultra-violet rays, and artificial pneumothorax are undertaken in suitable cases.

TOTAL NUMBERS TREATED IN THE SANATORIA AND DURATION OF STAY.

During the calendar year 1927, there were 1,684 patients discharged from all the Sanatoria. Of this number 880 were adult males, 539 were adult females, 143 were male children, and 122 were female children.

The average duration of stay, excluding those admitted for observation and who proving negative remained only for a short time, and excluding those hospital cases with advanced disease who died within four weeks of admission, was 104.8 days for males, 102.3 days for females, and 258.5 days for children.

OBSERVATION PATIENTS.

The beds reserved for the purpose of observation are at the Yardley Road Sanatorium, and vary in number from time to time, the average being about thirty. Observation patients are those who, after careful and repeated examinations at the Centre, are found to be indefinite, either as to the absence or presence of tuberculosis, or as to its activity or otherwise when present, and are usually admitted for a period varying from two to four weeks. Of the 1,684 treated in all the Sanatoria 295 or 17.5 per cent. were admitted primarily for observation to Yardley Road Sanatorium. The medical findings after varying periods of observation in connection with these patients are set out in the following table:—

					Positive diagnosis.	Negative diagnosis.	Total
Adult Males	...	...	...	...	25	54	79
Adult Females	...	...	...	...	19	41	60
Children	...	...	...	...	56	100	156
					100=33.8%	195=66.1%	295

DISCHARGED PATIENTS, TABULATED ACCORDING TO SEX AND AGE.

In the following table the patients have been classified according to their sex and age. It will be seen that the largest number of our patients are included in the age-period between twenty and thirty years.

							Males.	Females.
1 to 14 years	...	...	...	...	...	...	143	122
15 to 20	..	...	...	...	...	...	70	114
21 to 25	..	...	...	...	...	...	88	92
26 to 30	..	...	...	...	...	...	102	84
31 to 35	..	...	...	...	...	...	112	68
36 to 40	..	...	...	...	...	...	110	59
41 to 45	..	...	...	...	...	...	139	40
46 to 50	..	...	...	...	...	...	123	41
51 to 55	..	...	...	...	...	...	81	24
56 to 60	..	...	...	...	...	...	40	9
Over 60	..	...	...	...	...	...	15	8
							1,023	661

CLASSIFICATION OF PATIENTS' DISEASE.

In this table the patients are scheduled according to the classification of the Ministry of Health, as follows:—

Group I.—Cases with slight constitutional disturbance, if any, e.g., there should not be marked acceleration of pulse nor elevation of temperature except of very transient duration; gastro-intestinal disturbance or emaciation, if present, should not be excessive.

The obvious physical signs should be of very limited extent as follows:—Either present in one lobe only and in the case of an apical lesion of one upper lobe not extending below the second rib in front or not exceeding an equivalent area in any one lobe; or where these physical signs are present in more than one lobe, they should be limited to the apices of the upper lobes and should not extend below the clavicle and the spine of the scapula.

No complication (tuberculous or other) of prognostic gravity should be present. A small area of dry pleurisy should not exclude a case from this group.

Group III.—Cases with profound systemic disturbance or constitutional deterioration; with marked impairment of function either local or general, and with little or no prospect of recovery.

All cases with grave complications, whether tuberculous or not, should be classified in this group, e.g., diabetes, tuberculosis of larynx or intestine, etc.

Group II.—All cases which cannot be placed in Group I. and III.

Patients suffering from non-pulmonary tuberculosis are classified according to the site of the lesion and are placed under Group IV.

					Group I.	Group II.	Group III.	Group IV.	No active signs.
ADULT MALES.									
Yardley Road Sanatorium	...	...	...	...	23	130	268	17	54
Salterley Grange Sanatorium	...	...	...	...	43	84	—	—	—
Romsley Hill Sanatorium	...	...	...	...	6	130	38	—	—
West Heath Sanatorium	...	...	...	...	—	16	71	—	—
ADULT FEMALES.									
Yardley Road Sanatorium	...	...	...	...	20	70	10	18	41
Salterley Grange Sanatorium	...	...	...	...	28	38	3	2	—
Romsley Hill Sanatorium	...	...	...	...	2	54	23	—	—
West Heath Sanatorium	...	...	...	...	—	35	194	1	—
CHILDREN.									
Yardley Road Sanatorium	...	...	...	...	65	50	8	32	100
West Heath Sanatorium	...	...	...	...	—	—	9	1	—
					187	607	624	71	195

SPUTUM.

Excluding the 195 observation patients with no active signs from the total number of adult patients discharged from the Sanatoria during the year, 891 or 67.2% presented tubercle bacilli in their sputum whilst in the Sanatoria.

Sanatoria	No sputum persisting	No sputum becoming T.B.—	No sputum becoming T.B.+	T.B.— persisting	T.B.— becoming T.B.+	T.B.— becoming no sputum	T.B.+ persisting	T.B.+ becoming T.B.—	T.B.+ becoming no sputum	Totals	
Yardley Road Sanatorium	17	9	2	93	20	6	261	21	9	438	Adult Males.
	31	2	—	27	3	9	35	2	9	118	Adult Females.
	134	—	—	1	—	15	1	—	4	155	Children.
										195	Negative Diagnosis.
										906	
Romsley Hill Sanatorium	1	1	1	45	12	—	102	11	1	174	Adult Males.
	10	2	2	7	3	4	41	4	6	79	Adult Females.
										253	
Salterley Grange Sanatorium	9	1	1	17	8	24	44	3	20	127	Adult Males.
	22	—	2	6	3	12	16	—	10	71	Adult Females.
										198	
West Heath Sanatorium	2	1	1	15	7	2	47	11	1	87	Adult Males.
	16	6	7	34	16	2	129	14	6	230	Adult Females.
	5	—	—	1	1	—	2	1	—	10	Children.
										327	

OCCUPATIONS.

In the following table the occupations of both male and female adult patients are shown :—

	Males.	Females.
Out-door occupations	64	4
Domestic occupations	14	250
Sedentary occupations	66	43
Commercial occupations	38	14
Engineering trade	170	72
Metal trade	210	68
Building trade	64	—
Other trades	254	88
	880	539

TREATMENT CARRIED OUT WHILST IN SANATORIA.

The majority of the patients treated in the Sanatoria during the year accepted the treatment advised by the Medical Officers. In 1,071 instances, extensions of the treatment primarily advised were accepted. There were 72 patients who left the Sanatoria against medical advice and 5 were dismissed. Deaths in the Sanatoria numbered 267, the great majority of which occurred amongst patients in the "hospital beds" provided for those with advanced and acute disease.

	Remaining full time recommended.	Extension of time accepted.	Left against medical advice.	Left before time with M.O.'s consent.	Dismissed.	Died.
Adult Males	129	499	41	35	4	172
Adult Females	60	352	23	17	—	87
Children	23	220	8	5	1	8
	212	1071	72	57	5	267

PULMONARY CONDITION AFTER TREATMENT.

In the following table is shewn the condition of the patients' pulmonary disease on discharge. A description of the different terms is given at the conclusion of this report.

	Disease quiescent	Disease improved	No material improvement	Died	No active signs	Totals
ADULT MALES.						
Yardley Road Sanatorium ...	48	172	81	137	54	492
Romsley Hill Sanatorium ...	14	112	41	7	—	174
Salterley Grange Sanatorium ...	54	61	10	2	—	127
West Heath Sanatorium ...	6	40	15	26	—	87
ADULT FEMALES.						
Yardley Road Sanatorium ...	33	67	15	3	41	159
Romsley Hill Sanatorium ...	1	52	22	4	—	79
Salterley Grange Sanatorium ...	40	25	6	—	—	71
West Heath Sanatorium ...	20	95	35	80	—	230
CHILDREN.						
Yardley Road Sanatorium ...	68	73	8	6	100	255
West Heath Sanatorium ...	—	4	4	2	—	10

ILLNESSES PRIOR TO ADMISSION.

In 117 or 8.2 per cent. instances, adult patients had a history of having suffered from pleurisy at periods varying from one to twelve years prior to their examination by us. In 113 or 7.9 per cent. of the adult patients there was a history of pneumonia having occurred from one to twelve years previously. Large numbers of patients attributed the onset of their tuberculosis to an attack of influenza, and in the case of many of our child patients measles appears frequently as a probable predisposing cause of tuberculosis.

GAIN OR LOSS IN WEIGHT.

Amongst a total of 1,684 patients discharged from Sanatoria, many of whom were advanced hospital cases, having been admitted for the purpose of prophylaxis, 84 or 4.9 per cent. remained stationary, and 1,477 or 87.7 per cent. gained weight in amounts varying from one to fifty pounds.

WORKING CAPACITY.

The working capacity of patients is shown in the following table:—

	Males.	Females.	Children.	Totals.
Unimpaired capacity for work becoming impaired ...	—	—	1	1
Unimpaired capacity persisting	2	1	—	3
Impaired capacity for work becoming unimpaired ...	66	42	3	111
Impaired capacity for work becoming totally incapacitated	65	31	4	100
Impaired capacity persisting	422	225	122	769
Total incapacity for work becoming impaired	101	64	17	182
Total incapacity becoming unimpaired	3	20	4	27
Total incapacity persisting	167	115	14	296
<hr/>				
Negative Diagnosis	826	498	165	1489
	54	41	100	195
<hr/>				
	880	539	265	1684

SUMMARY.

The average duration of patients' stay for all the Sanatoria was 104.8 days for males, 102.3 days for females, and 258.5 days for children.

Of the patients discharged from all Sanatoria no less than 17.5 per cent. had passed through the observation beds at Yardley Road Sanatorium.

The largest number of our patients in any decade were those drawn from the age period 20—30 years.

Over 37.05 per cent. of the patients discharged were in Group III., 36.04 per cent. were in Group II., 11.1 per cent. were in Group I., 4.2 per cent. were in Group IV., and 11.5 per cent. had a negative diagnosis.

There were 67.2 per cent. of the total definite patients who presented tubercle bacilli in their sputum whilst in the Sanatoria. The number who showed bacillary loss, decided after three examinations was 133 or 14.7 per cent.

Over 87 per cent. of all patients discharged from Sanatoria gained weight in amounts varying from one to fifty pounds, only 84 or 4.9 per cent. remained stationary.

Some 267 patients died in "hospital" beds in the various sanatoria. This figure represents 31.1% of the total deaths from pulmonary tubercle occurring in the city during the year.

"QUIESCENT"—Cases which have no symptoms of tuberculosis and no signs of tuberculous disease except as are compatible with a completely healed lesion, and in which sputum, if present, is free from tubercle bacilli.

"IMPROVED"—Cases short of "quiescent" in which the general health is fair and the symptoms of tuberculosis have materially diminished.

"NO MATERIAL IMPROVEMENT"—All other patients who are alive.

TREATMENT IN THE LIGHT CLINIC, CITY SANATORIUM, YARDLEY ROAD.

Report by Dr. G. B. DIXON, Chief Tuberculosis Officer.

STAFF.

The work of the Light Clinic at the City Sanatorium, Yardley Road, Birmingham, is directed by Dr. G. B. Dixon, Medical Superintendent of the Sanatorium, who received a course of training at the Pinsen Institute, Copenhagen.

The nursing staff includes a Sister, two staff nurses and one probationer. The Sister has worked continuously in the department for about three and a half years.

The Clinic is open daily on five days weekly from 9 a.m. until 6 p.m. and on Saturdays from 9 a.m. until 2 p.m.

The general arrangements at the Clinic are on the lines described in the report for 1926.

SOURCE OF ARTIFICIAL LIGHT.

The artificial light is derived from four open flame carbon-arc lamps, designed by Professor Reyn of Copenhagen, consuming 75 amperes. Direct current is used, and the voltage is sixty-five.

Two of these lamps are used in each light treatment room. The two lamps in one room are fitted with simple non-cored carbons. The period of exposure to this lamp, for a general bath, as a maximum, may be from one to two hours. The spectrum of light from this lamp is said to approximate more nearly to the spectrum of sunlight, than that of many other lamps.

CHOICE OF PATIENTS FOR DIFFERENT TYPES OF LAMPS.

In one treatment room each of the two lamps is fitted with a simple non-cored carbon, and with a carbon having a mineralised core. This arrangement produces a light with a more intense ultra-violet content, and one which is therapeutically more powerful than the light from similar lamps fitted with non-cored carbons only. The period of exposure necessary is therefore much shorter, and as a result more patients can be treated with these lamps in a given period of time, than are treated with similar lamps when fitted with non-cored carbons.

Owing to the more intense ultra-violet output, the choice of patients to be treated with this lamp requires discrimination. It should only be used for the more physically robust, and for those who pigment well after treatment with light from a lamp in which the ultra-violet radiation is less intense. It is not the most suitable type of lamp to use for the treatment of young or delicate patients who do not pigment well. The maximum period of exposure to this lamp is from twenty to thirty minutes.

ESTIMATION OF INTENSITY OF ULTRA-VIOLET RAYS.

Before the dosage in connection with any variety of lamp can be correctly assessed some knowledge of the intensity of the ultra-violet content of its light should be available. For estimating this, many devices have been suggested and are available; unfortunately, not all of them are entirely reliable.

Knapp and Moss have introduced a method which, though perhaps a little complicated for frequent usage, appears to be fairly satisfactory.

Some types of lamp vary frequently and greatly in the intensity of their ultra-violet output, and if dosage is to be satisfactory, frequent estimations may have to be undertaken. Other types of lamps, such as the open-flame carbon arc, in which the ultra-violet output is more stable, do not require such frequent testing.

The advantages of a reliable method of estimating the intensity of ultra-violet output are obvious, particularly in arranging the periods of exposures, and in attempting to standardise the dosage of different types of lamp.

NON-PIGMENTORS.

In the case of non-pigmentors, more than ordinary care has to be observed in treatment if satisfactory results are to be obtained. The period of exposure should be definitely shorter than for those who pigment well, and increase in dosage should be less frequent and of shorter duration.

It is noticeable that in some non-pigmentors, although progress is slower, the tuberculous lesion shows definite improvement, as a result of irradiation, and provided the lesion shows definite improvement it would appear that non-pigmentation alone is an insufficient reason in every case, for withholding this form of treatment.

PULSE AND TEMPERATURE READINGS.

Treatment by means of the general light baths, as a rule, produces no deleterious effect upon the pulse and temperature records of our patients. Occasionally increases in pulse rate and a rise of temperature have been noted after treatment, but in most instances they have been transient. Such rises are more likely to occur where pulmonary tuberculosis is an associated lesion.

The marked improvement which occurs in the muscular tone of immobilised limbs after ultra-violet irradiation, is noticeable.

In association with the treatment of lupus vulgaris by means of ultra-violet irradiation other forms of treatment for this disease should not be ignored. We have found in many of these cases that the local application of liquor hydrargyri nitratis has been of benefit.

The tendency to regard the application of artificial light to those suffering from tuberculosis as a complete method of treatment in itself, should be guarded against. The best results can only be obtained when it is associated with other forms of treatment.

It is well to remember too, that whatever treatment is used for tuberculosis, it must be undertaken before the disease is advanced, whilst the patient is capable of response, and it must be of long duration, irrespective of the site of the lesion, if good results are to be anticipated. Sufferers from laryngeal tuberculosis cannot be excused from the prolonged observation of silence, or the use of the cautery, nor can those with bone and joint tuberculosis be relieved from the tedium of immobilisation because of actinotherapy.

PATIENTS COMPLETING TREATMENT DURING 1927.

The total number of patients discharged, or completing treatment, during 1927, was seventy-one. This number includes thirty male adults, sixteen female adults, seventeen male children, and eight female children. Of the seventy-one patients sixty-four completed a satisfactory course of treatment, two of which have since died. Seven failed to complete a satisfactory course of treatment, two of which have since died.

Of those who completed a satisfactory course of treatment during the year, twenty-seven were cases of bone and joint tuberculosis, nine were cases of abdominal tuberculosis, eleven were cases of peripheral adenitis, and the remaining seventeen were suffering from tuberculosis in other organs.

In a majority of instances our patients received artificial light treatment and sanatorium treatment concurrently. Many patients after discharge from the sanatorium continued to attend the Light Clinic as out-patients.

TREATMENT MUST BE PROLONGED.

It is an advantage if the initial period of artificial light treatment is associated with sanatorium treatment. In most instances of tuberculous disease, a course of artificial light treatment extending over a period of less than six months will, as a rule, not produce satisfactory results. In many instances treatment must be continued for eighteen months and two years, when exposures are given on alternate days.

LENGTH OF TREATMENT AND NUMBER OF EXPOSURES.

The average length of time during which our "completed" patients received artificial light treatment was approximately fifty-seven weeks. The average number of exposures was approximately one hundred and forty-seven, and the average gain in weight in each case was six and a quarter lbs.

PATIENTS WHO DID NOT COMPLETE TREATMENT.

The patients who discontinued treatment for various reasons numbered seven. They included cases of spinal caries, laryngitis, and cervical adenitis, and a tuberculous ulceration of the rectum. The majority were cases of long standing and fairly extensive disease.

On December 31st, 1927, one hundred and thirty-eight were continuing their treatment in the Light Clinic. This number included patients suffering from bone and joint tuberculosis, tuberculous adenitis and laryngitis, lupus and abdominal tuberculosis, most of which are making progress.

TREATMENT BY BOTH GENERAL AND LOCAL APPLICATION OF ARTIFICIAL LIGHT.

A number of our patients whose lesion was a local one, viz., cases of lupus vulgaris and superficial tuberculous ulcerations and sinuses, in addition to irradiation of the surface of the body by means of the "general bath" received local applications of artificial light from a tungsten and carbon arc lamp.

When the light from this lamp is focused through a quartz lens and applied at a distance of fifteen inches, the intensity of the ultra-violet rays applied is very high, and is probably three times greater than that of an "average" mercury vapour lamp, air cooled (220 volts and 2-4 amps.).

In many obstinate cases of lupus vulgaris, etc., healing is accelerated, and is achieved with less delay than when artificial light is applied by the general bath only.

COST OF CURRENT.

The cost of current for the working of the Light Clinic was 1/8.2 per hour.

LIGHT TREATMENT.

EXPENDITURE FOR THE YEAR JANUARY 1ST—DECEMBER 31ST, 1927.

SALARIES :	£	s.	d.	£	s.	d.
Medical Officer	600	0	0			
Nursing	248	0	0			
Porters	214	16	2			
Engineer	47	3	5			
Repairs (Manager of Works Staff)	63	12	4			
Contributions to Superannuation Fund	51	5	5			
				1,224	17	4
PROVISIONS FOR NURSING STAFF ...				86	19	4
HEATING MATERIALS				242	3	0
CLEANING MATERIALS				55	6	8
UNIFORMS				30	0	0
ELECTRIC CURRENT				257	5	9
LAMPS, CARBONS, FITTINGS, ETC. ...				119	12	11
MEDICAL, SURGICAL APPLIANCES, ETC.				245	7	0
PHOTOGRAPHIC EXPENSES				25	13	9
TRAVELLING EXPENSES				7	6	2
PRINTING, STATIONERY, ETC.				1	13	0
GENERAL REPAIRS—MATERIALS				21	3	4
MISCELLANEOUS EXPENSES				13	6	
				£2,318	1	9

VENEREAL DISEASES.

The following table shows the total number of new cases of Syphilis and Gonorrhœa treated each year since 1918:—

Year.	New cases of Syphilis.					New cases of Gonorrhœa.			
	Male.	Female.	Children.	Total.		Male.	Female.	Children.	Total.
1918	502	355	—	857	...	588	100	—	688
1919	782	459	—	1,241	...	1,399	187	—	1,586
1920	704	441	—	1,145	...	1,190	185	—	1,375
1921	423	343	—	766	...	825	131	—	956
1922	220	237	—	457	...	628	83	—	711
1923	296	239	—	535	...	666	89	—	755
1924	291	301	18	610	...	691	73	5	769
1925	277	240	23	540	...	667	220	5	892
1926	231	270	43	544	...	692	185	7	884
1927	278	298	62	638	...	660	289	26	975

Note.—About 90 per cent. of these cases are Birmingham residents.

The Clinics at which these persons were treated in 1927 were as follows:—

	New cases of		Total	
	Syphilis	Gonorrhœa.	new cases.	attendances.
General Hospital ... (for men and women)	428	767	1,195	60,454
Children's Hospital ... (for children only)	19	11	30	495
Aston Street Clinic ... (for mothers and babies)	191	197	388	5,438

Particulars of the cases treated during 1927 are given below:—

	SYPHILIS.				GONORRHOEA.			
	Males.	Females.	Children.	Total	Males.	Females.	Children.	Total
Total number of new cases	278	298	62	638	660	289	26	975
Total number of attendances	10,753	8,632	609	20,084	40,384	5,003	916	46,303
Aggregate number of in-patient days	102	448	29	579	385	709	—	1,094
Ceased attendance before completion of treatment	132	104	7	243	315	42	4	361
Ceased attendance after completion of treatment, but before final tests	25	15	—	40	274	29	—	303
Transferred to other Centres after treatment	20	11	3	34	44	15	—	59
Discharged or died after completion of treatment and observation	15	10	8	33	98	40	5	143
Number of patients under treatment or observation on January 1st, 1928	436	446	127	1,009	715	403	34	1,152

SUPPLEMENTARY REPORT ON VENEREAL DISEASES IN BIRMINGHAM FOR 1927.

By DR. ERIC W. ASSINDER.

The total attendances at the three Centres for Venereal Diseases in Birmingham again showed a marked increase.

- (1) At the General Hospital—total attendances ... 61,468 (1926—45,281)
- (2) At Aston Street Clinic—total attendances ... 5,194 (1926— 3,371)
- (3) At Children's Hospital—total attendances ... 660 (1926— 438)

As far as the General Hospital is concerned conditions are still very unsatisfactory as regards accommodation, and I am hopeful that the new building will be erected as soon as possible; were better facilities offered I am confident that the above figures would be increased, and the scope of the work extended.

The work at the Centres in Birmingham in 1927 has been on much the same lines as in 1926, but two points of technical interest may be mentioned:—

- (1) The greater number of cultures (in addition to film examinations) made for the diagnosis of Gonorrhœa.
- (2) The routine examination of the patient, who is having arsenic injections, by the Van-den-Bergh and urobilin and urobilinogen tests for evidence of liver involvement.

(1) In my opinion, which is borne out by figures, cultural tests are essential, both in diagnosis and in "test of cure" in patients suffering from, or suspected of Gonorrhœa.

(2) The regular testing of the blood and urine of patients, who are being treated for Syphilis by arsenic injections is of great value as we appear to have a safeguard against the occurrence of arsenical jaundice during the course of treatment.

POLIOMYELITIS.

The following table shows in detail the number of cases in 1927 and preceding years.

Year.		Cases notified	Died	Complete recovery.	Some Paralysis.
1917	...	11	2	6	3
1918	...	4	—	2	2
1919	...	14	1	6	7
1920	...	1	—	—	—
1921	...	11	4	1	6
1922	...	6	—	1	5
1923	...	33	3	1	29
1924	...	39	5	5	29
1925	...	11	3	5	3
1926	...	38	3	3	32
1927	...	15	1	6	8*

* One died since of intercurrent disease.

Particulars of the 1927 cases are given below :—

No.	Notified.	Sex.	Age.	Conditions at April, 1928.
1	Jan. 5	M	1½	Weakness in right leg. Wearing splint.
2	" 10	F	1½	Weakness in right leg and foot. Wearing splint.
3	" 10	M	7	Died January 3rd.
4	" 21	F	4	Weakness in left leg. Wearing splint.
5	Mar. 8	F	2	Died of intercurrent disease.
6	" 8	M	3	Complete recovery.
7	" 26	M	1½	Complete recovery.
8	April 9	M	10 mths.	Complete recovery.
9	June 13	M	2	Complete recovery.
10	Sept. 1	M	2	Weakness in right shoulder.
11	" 29	F	7	Weakness in legs. More marked in left.
12	Oct. 3	M	3	Slight weakness in left leg.
13	" 19	M	9	Complete recovery.
14	" 26	M	2	Weakness in both legs and trunk. On frame at home.
15	Nov. 7	M	7	Complete recovery.

Because the disease is definite in its onset parents are usually alive to the necessity of taking steps to secure treatment for the child. When difficulties are experienced in continuing the prolonged course of treatment which is frequently necessary, health visitors keep the patients under observation and help in making arrangements for taking the patients to and from hospital.

POLIOENCEPHALITIS.

Two cases of polioencephalitis were notified during the year, both of whom died.

ENCEPHALITIS LETHARGICA.

During the year 57 cases were notified and of these 1 after observation was found definitely not to be suffering from encephalitis, while 3 were not Birmingham cases, leaving a total of 53. The number of cases and deaths is shown in the following table.

Year.		Cases.	Deaths.	Fatality per cent.
1919	...	11	5	45.5
1920	...	18	7	38.9
1921	...	25	8	32.0
1922	...	12	4	33.3
1923	...	29	12	41.4
1924	...	282	44	15.6
1925	...	92	32	34.8
1926	...	89	36	40.4
1927	...	53	32	60.4
Totals		611	180	29.5

In a proportion of the cases terminal conditions in old persons were notified as encephalitis lethargica, and it is difficult in these cases to be sure that the diagnosis is correct.

AFTER-EFFECTS OF ENCEPHALITIS LETHARGICA.

A rough classification of the surviving cases gives the following figures.

Complete recovery	...	...	...	...	...	...	...	...	8
Incomplete recovery	...	...	...	...	...	...	...	...	13
Parkinsonism	...	...	...	...	...	...	...	...	4
Irritability	...	...	...	...	...	...	...	...	3
Other symptoms (headaches, tremor, easy fatigue, squint, hemianopsia)									6

When last seen in April those patients whose recovery was incomplete appeared to have reached a state in which change either for better or worse was slow or imperceptible.

Some of the incompletely recovered patients of 1927 and previous years are comparatively harmless inmates of ordinary households. In other cases they are a constant source of trouble, annoyance and danger, and the problem of dealing with them properly has not yet received a satisfactory solution.

CEREBRO-SPINAL FEVER.

There were twelve notified cases of Cerebro-spinal fever during the year, of which ten have died, either during the year or since. The great majority of the patients were young children, but one was a man of 60 and another a young woman of 18 years.

The cases and deaths in the past ten years have been as follows :—

Year.					Cases notified.	Deaths.	Fatality per cent.
1918	...	...	...	...	16	10	62
1919	...	...	...	...	14	9	64
1920	...	...	...	...	25	18	72
1921	...	...	...	...	9	7	78
1922	...	...	...	...	18	16	89
1923	...	...	...	...	4	2	50
1924	...	...	...	...	11	8	73
1925	...	...	...	...	7	6	86
1926	...	...	...	...	10	9	90
1927	...	...	...	...	12	10	83

VII.—MATERNITY AND CHILD WELFARE.

INFANT MORTALITY.

The Infant Mortality rates in Birmingham over a series of years are set out in the following table:—

					INFANT MORTALITY RATE.	
					Birmingham.	England and Wales.
1901-05	...	...	...	...	157	138
1906-10	...	...	...	...	131	117
1911-15	...	...	...	...	126	110
1916-20	...	...	...	...	94	91
1921-25	...	...	...	...	80	76
1918	...	...	...	...	99	97
1919	...	...	...	...	84	89
1920	...	...	...	...	83	80
1921	...	...	...	...	83	83
1922	...	...	...	...	86	77
1923	...	...	...	...	72	69
1924	...	...	...	...	83	75
1925	...	...	...	...	78	75
1926	...	...	...	...	73	70
1927	...	...	...	...	75	69

Data given in the report for 1926 showed that in the first week of life and to a smaller extent in the second week the fall in mortality had been comparatively small, while at the other ages it had varied from 34% to 52%. One-fourth of the total infant mortality was shewn to occur within seven days of birth.

Taking the five years prior to 1927 (1922-1926) the neo-natal mortality, i.e., the mortality in the first four weeks of life, was 32.7 per 1,000. In 1927 it was 33.3 per 1,000, an actual increase.

In addition to the deaths occurring almost immediately after birth there are also some hundreds of babies born dead. Indeed the stillbirths outnumber the deaths which occur soon after birth.

Last year there were 521 stillbirths, while the deaths in the first week of life amounted to 407, and in the second week to 66.

The next Table shows for each ward of the City the total number during the past year of babies who were either stillborn or who died within a week of birth.

					Stillbirths and Deaths under one week.	Rate per 1,000 live and still-births.		
					Ward			
Central Wards	{		St. Pauls	39	48.0	Average 49.6
					St. Marys	51	58.6	
					Duddeston and Nechells	52	49.5	
					St. Bartholomews	39	42.3	
					St. Martins and Deritend	49	49.7	
					Market Hall	19	54.0	
					Ladywood	28	45.2	
Middle Ring	{		Lozells	41	72.6	Average 54.1
					Aston	40	48.3	
					Washwood Heath	39	52.1	
					Saltley	39	54.3	
					Small Heath	24	44.2	
					Sparkbrook	35	61.3	
					Balsall Heath	35	57.1	
					Edgbaston	24	57.1	
					Rotton Park	29	41.8	
					All Saints	40	52.5	

Outer Ring	Soho	25	62.7	Average 53.9
	Sandwell	20	76.3	
	Handsworth	20	55.9	
	Erdington North	37	53.0	
	Erdington South	22	61.1	
	Yardley	30	63.3	
	Acocks Green	31	55.6	
	Sparkhill	38	60.8	
	Moseley and Kings Heath	25	44.2	
	Selly Oak	24	57.4	
	Kings Norton	14	39.6	
	Northfield	4	20.0	
	Harborne	10	50.5	

From the above Table it would appear that whatever is the cause of this heavy loss of life it is not dependent on social conditions, being as high in the residential wards of the City as it is in the poorest areas.

From these and other similar figures two definite facts emerge, first, that the neo-natal mortality—that is the mortality in the first month of life—is not being seriously reduced, and, second, that it is not apparently affected to any great extent by the factors influencing infant mortality after the first month. The second point is emphasised in the various tables showing the distribution of infant mortality in the City, and in the distribution of diarrhoea and enteritis deaths under two years. Infant visiting can obviously do little to prevent the neo-natal deaths, because the infant visitors only pay their primary visit after the first fortnight, and in the areas they visit only 94 of the neo-natal deaths out of a total of 565 would in the ordinary course have been visited. Moreover, enquiries show that out of 565 neo-natal deaths in the areas served by the Welfare Centres, only 63 of the mothers had attended the child welfare ante-natal clinics, or 11 per cent. The average for all mothers is 28 per cent, so that the mothers whose children died in the first month had had far less ante-natal assistance from the Public Health Department than other mothers had obtained.

The following table gives the results of investigations into the 565 neo-natal deaths in the areas visited from the child welfare centres. The classification is based on the death certificates.

	Group 1 (under 2 weeks)	Group 2 (between 2 & 4 weeks)	Total.
Want of attention at birth	8	—	8
Birth injuries	19	—	19
Convulsions	18	1	19
Asphyxia	7	—	7
Prematurity	281	38	319
Congenital debility	13	3	16
Suffocation	4	7	11
Infections, including pneumonia ...	23	26	49
Marasmus	3	8	11
Cirrhosis of liver	1	—	1
Atelectasis	28	3	31
Jaundice	9	1	10
Congenital Heart Disease	26	3	29
Congenital deformities	19	3	22
Hæmorrhages of the newly-born ...	12	1	13
Totals ...	471	94	565

Everything goes to show that only intensive ante-natal work, with its influence on the mother's health, and with the consequent diminution both of difficult confinements and of injury to the child's health before birth, will be of real value in reducing neo-natal mortality.

It is proposed to make further efforts to help the midwife in dealing with premature and feeble children, many more of whom could undoubtedly be saved by special care and attention. Your Committee have approved arrangements for supplying from the Child Welfare Centres special prematurity outfits, and for encouraging the midwives to call on the infant visitors for earlier visits in such cases.

A relatively large proportion of the deaths are due to birth injuries. Apart from those actually so classified, it will be recognised that those due to convulsions should come into this category, together with the asphyxias. The provision of more maternity beds and more ante-natal clinics will be helpful.

AN INQUIRY REGARDING PREMATURE INFANTS.

At the request of the Ministry of Health, a special inquiry was undertaken as to the fate of premature infants born during 1926. It was desired to ascertain what proportion survived to the age of 12 months.

Inquiries were made in 500 cases. Of these 136 were infants born in Institutions and 52 were alive at the age of 12 months, while 364 were born at home, and 124 were alive at the age of 12 months. Of these 500 premature infants, 176, or 35 per cent., survived to the age of 12 months, and 141 were doing well—in other words, 80 per cent. of the survivors were healthy children.

Of the 324 infants who died before they reached the age of 12 months, 288, or 89 per cent., died within four weeks of birth, no less than 126 dying on the first day.

These figures again emphasise the need for intensive ante-natal work, if there is to be any marked improvement in the neo-natal death-rate, and they also emphasise the overwhelming importance of immediate attention and concentrated care if premature babies are to be saved. At the same time it is encouraging to notice the excellent chance of survival after the first month, and that a high percentage of the survivors are healthy children. As to the causes of prematurity in these cases the following table shows those which were ascertained, but in 281 cases no cause could be suggested. Research and investigation through ante-natal clinics must eventually make prevention possible.

CAUSES OF PREMATUREITY

Multiple pregnancy	...	...	...	...	...	...	52
Falls and strains	...	...	...	...	...	...	36
Heavy work	...	...	...	...	...	...	21
Shock	...	...	...	...	...	...	20
Albuminuria	...	...	...	...	...	...	11
Eclampsia	...	...	...	...	...	...	2
Ante-partum hæmorrhage and placenta prævia	...	...	...	...	...	...	23
Hydramnios	...	...	...	...	...	...	9
Excessive Vomiting	...	...	...	...	...	...	6
Induction	...	...	...	...	...	...	9
Cæsarian section	...	...	...	...	...	...	1
Other operations	...	...	...	...	...	...	3
Syphilis	...	...	...	...	...	...	2
Illness of mother	...	...	...	...	...	...	24
Total							219

DISTRIBUTION OF INFANT MORTALITY.

The appended table shows the infant mortality rate in each of the wards of the City in 1927.

Central Wards :	{	St. Paul's	115	}	Average 95
		St. Mary's	...	...	...	115
		Duddeston and Nechells	...	...	...	104
		St. Bartholomew's	...	...	...	81
		St. Martin's and Deritend	...	...	...	89
		Market Hall	...	...	...	85
		Ladywood	...	...	...	78
Middle Ring :	{	Lozells	78	}	Average 73
		Aston	...	...	...	80
		Washwood Heath	...	...	...	73
		Saltley	...	...	...	64
		Small Heath	...	...	...	34
		Sparkbrook	...	...	...	73
		Balsall Heath	...	...	...	87
		Edgbaston	...	...	...	66
		Rotton Park	...	...	...	89
		All Saints	...	...	...	82

Outer Ring :	Soho	81	Average 56
	Sandwell	44	
	Handsworth	47	
	Erdington North	59	
	Erdington South	49	
	Yardley	66	
	Acocks Green	36	
	Sparkhill	71	
	Moseley and Kings Heath	42	
	Selly Oak	61	
	King's Norton	44	
	Northfield	45	
	Harborne	78	

The next statement shows the contrast between the best and the worst ward :—

	Population.	Birthrate.	Infant Mortality Rate.
Small Heath Ward ... (the best)	34,700	15.2	34
St. Mary's Ward ... (the worst)	32,700	25.8	115

In the table below the death-rate among infants at various ages under one year is given for the City and for the three groups of wards for the five years 1923-27.

ANNUAL DEATH-RATE PER 1,000 AT VARIOUS AGES UNDER ONE YEAR.

	Central wards.	Middle Ring.	Outer Ring.	City.
First week	1,129	1,143	1,084	1,122
Second week	265	250	235	251
Third week	196	213	143	188
Fourth week	172	172	93	150
1—3 months	100	65	57	75
3—6 „	76	41	28	49
6—9 „	63	31	24	40
9—12 „	62	36	20	40

Looking at the figures in the last column which relate to the City as a whole it will be seen how disproportionately high is the mortality in the first week of life; so high indeed that if it continued at the same level there would be no survivors left at the end of 9 months. But in the second week and each succeeding period there is a great decrease, though even at the age of 9 to 12 months the mortality is still considerable.

An examination of the figures for the groups of wards reveals the fact that in the first week of life the difference in the mortality for the several groups is quite trifling. In other words the mortality immediately after birth is practically as high in the outer as in the central areas: social status and environmental differences apparently are not the chief agencies in this early mortality. In the second week also the difference in favour of the outer wards is not very great. But from the third week onwards the excess of mortality in the central wards is increasingly serious, until in the period 9—12 months old, the central wards have a mortality no less than three times as great as the outer ring.

These facts are illustrated in the chart on the opposite page. In this the mortality in the whole City at each age period is taken as 100 and the relative mortality in the three groups of wards is shown by the black, broken and dotted lines in the graph.

The figures used in constructing the diagram are as follows :—

	Percentage above or below the whole City.		
	Central Wards.	Middle Ring.	Outer Ring.
First week	+ 1	+ 2	— 3
Second Week	+ 6	=	— 6
Third week	+ 4	+ 13	— 24
Fourth week	+ 15	+ 15	— 38
1—3 months	+ 33	— 13	— 24
3—6 „	+ 55	— 16	— 43
6—9 „	+ 57	— 23	— 40
9—12 „	+ 55	— 10	— 50

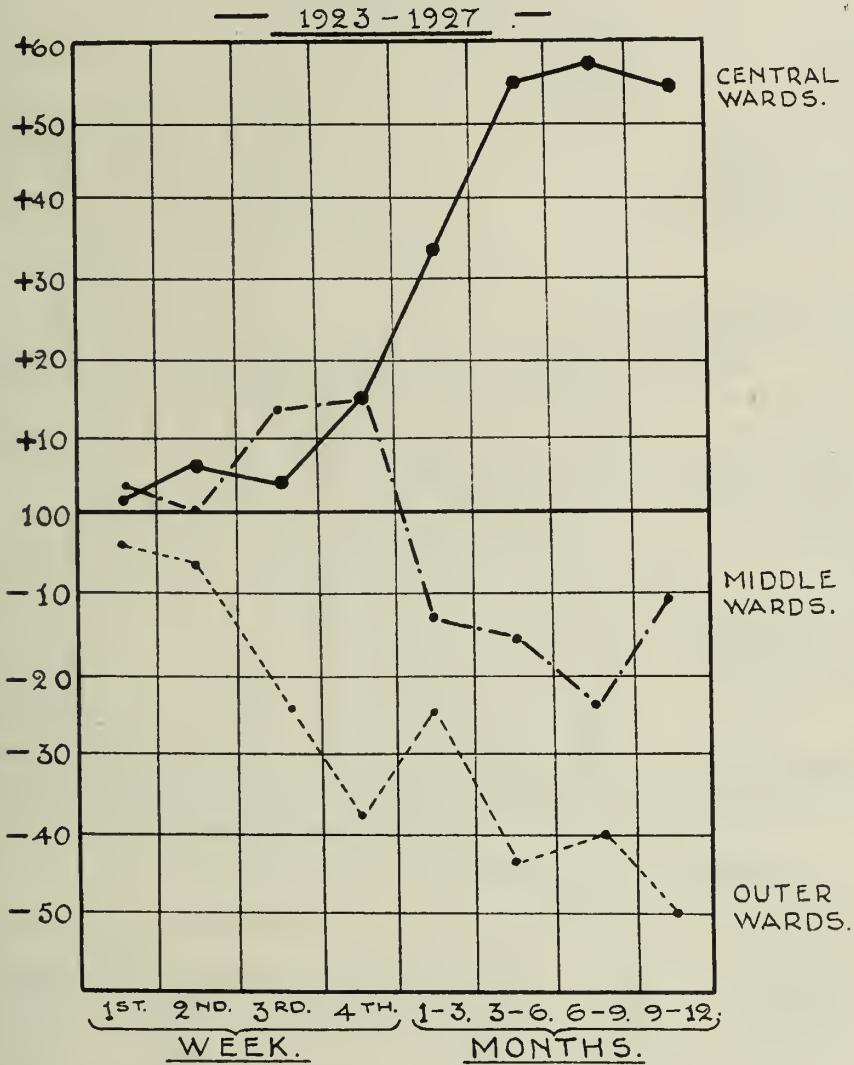
These figures seem to lead to two deductions :—

1. The deaths occurring within the first two weeks of life are not materially affected by social status, or by differences in general environment.
2. The environment, in its widest sense, plays a steadily increasing part in the mortality of infancy with increasing age.

RELATIVE INFANT MORTALITY AT DIFFERENT

AGE-PERIODS IN CENTRAL, MIDDLE AND OUTER WARDS

COMPARED WITH THE WHOLE CITY TAKEN AS 100.



The second of these deductions has its hopeful aspect, in encouraging the attack on the environmental disabilities. The first deduction shows that we have to delve still deeper in seeking the pre-natal factors, apparently common to women of all classes and under varying conditions of environment, which may be damaging the unborn child to a degree causing death so soon after birth.

In the next table the infant mortality in Birmingham is shown as compared with that in other great towns.

INFANT MORTALITY IN OTHER TOWNS.
(Registrar General's Figures).

Glasgow	...	...	...	...	...	...	144
Birmingham	...	...	...	...	...	...	78
Liverpool	...	...	...	...	...	...	97
Manchester	...	...	...	...	...	...	95
Sheffield	...	...	...	...	...	...	79
Leeds	...	...	...	...	...	...	80
Bristol	...	...	...	...	...	...	65
Edinburgh	...	...	...	...	...	...	88

The next table shows how the mortality was distributed over various causes of death and over different age periods under 1 year of age.

INFANTILE MORTALITY BY AGE AND CAUSE.

Deaths from stated Causes in Weeks and Months under One Year of Age.

Cause of Death.	Weeks.				Total under One Month.	Months.				Total Deaths under One Year.
	0—	1—	2—	3—		1—	3—	6—	9—	
Measles	—	—	—	—	—	—	2	6	19	27
Scarlet Fever	—	—	—	—	—	—	—	—	—	—
Whooping Cough	—	—	—	—	—	5	9	7	10	31
Diphtheria and Croup	—	—	—	—	—	—	1	—	1	2
Influenza	—	—	1	1	2	2	5	1	3	13
Tuberculous Meningitis	—	—	—	—	—	1	3	2	3	9
Abdominal Tuberculosis	—	—	—	—	—	1	—	1	1	3
Other Tuberculous Diseases	—	1	—	—	1	1	2	1	3	8
Rickets	—	—	—	—	—	—	—	3	1	4
Syphilis	—	—	—	1	1	2	—	2	1	6
Cerebro-Spinal Fever	—	—	—	—	—	—	—	2	1	3
Meningitis (not Tuberculous)	—	—	—	—	—	2	2	9	2	15
Convulsions	15	1	—	—	16	4	6	5	—	31
Bronchitis	1	2	5	4	12	26	9	10	9	66
Pneumonia (all forms)	2	6	3	2	13	31	48	57	57	206
Gastritis	—	—	—	—	—	3	2	1	—	6
Diarrhoea, Enteritis, etc.	2	3	4	2	11	38	72	37	20	178
Congenital Malformations	34	11	3	4	52	10	6	3	1	72
Premature Birth	250	32	30	15	327	35	2	—	—	364
Atrophy, Debility and Marasmus	24	5	7	4	40	28	18	2	—	88
Atelectasis	31	—	1	1	33	1	—	—	—	34
Injury at Birth	19	1	1	—	21	3	1	—	—	25
Neglect (under 3 months)	10	—	—	1	11	—	—	—	—	11
Suffocation (overlying)	2	2	2	4	10	8	6	1	—	25
Other Causes	17	2	1	5	25	13	9	12	13	72
All Causes	407	66	58	44	575	214	203	162	145	1,299
Rate per 1,000 Births	23.6	3.8	3.4	2.6	33.3	12.4	11.8	9.4	8.4	75

INFANTILE DIARRHŒA AND ENTERITIS.

There were 198 deaths from diarrhœal disease under two years of age.

The deaths in previous years with comparative meteorological data are shown in the next table.

	Deaths from Diarrhœa and Enteritis. Under 2 years	Death-rate per 1,000. births	Highest Temp. of the Air.*	Days with Temp. of 75 Fahr. or over.*	Maximum Soil Temperature (4ft.)*	Amount of Rain in inches.*	Days with 0.01 or more of Rain.*
1916 ...	380	18.4	82.1	14	54.8	5.42	36
1917 ...	266	15.0	78.4	5	54.0	9.74	55
1918 ...	311	18.5	81.3	13	55.9	9.83	54
1919 ...	191	9.9	83.0	12	55.0	8.44	39
1920 ...	237	9.5	73.0	0	53.0	7.59	53
1921 ...	367	16.6	89.2	27	57.0	5.54	27
1922 ...	169	8.5	71.5	0	52.8	13.45	55
1923 ...	207	10.9	91.9	15	54.2	9.50	49
1924 ...	170	9.2	84.5	2	53.0	10.33	63
1925 ...	201	11.3	85.7	12	55.0	9.97	46
1926 ...	201	11.2	83.0	13	55.2	4.85	36
1927 ...	198	11.5	80.3	3	54.0	11.45	50

*In the third quarter of the year.

The diarrhœa rates in different areas in 1927 were as follows:—

Central Wards	20.7 per 1,000 births.
Middle Ring	8.1 „
Outer Ring	5.9 „

STILLBIRTHS.

In 1927 there were 521 stillbirths against 585 in 1926.

An investigation is made into nearly all the cases of stillbirth. When the stillbirth occurs in a midwife's practice, the Midwives Inspector visits immediately. In other cases visits are paid at the end of a fortnight by infant visitors. A second visit is paid by the infant visitor at the end of six months so that in case of pregnancy ante-natal care may be urged.

A summary of the results obtained by the investigation was previously reported in 1924. It may be of interest to give both the 1924 and 1927 figures.

Total number of notifications, 1927.	521.	Not visited	...	...	33
		Information obtained	...	...	488
Total number of notifications, 1924.	544.	Not visited	...	...	41
		Information obtained	...	...	503

Age of the mother.

The figures show no point of interest.

<i>Legitimacy.</i>		1927.	1924.
Legitimate	...	433	461
Illegitimate	...	15	9
Not recorded	...	40	33

The number of stillbirths is not disproportionate among the illegitimate group, but there is a definite increase in 1927 which may, however, have no particular significance.

<i>Period of gestation.</i>		1927.	1924.
Full Time	...	300	269
Premature	...	181 (38%)	212 (44%)
Not recorded	...	7	22

It will be seen that a high proportion of stillbirths occur with prematurity. This would, of course, be expected.

		1927.		
<i>Duration of Labour.</i>		Midwives cases.	Dr. in attendance.	Total.
Over 24 hours	...	5	75	80
12—24 hours	...	16	69	85
6—12 hours	...	50	94	144
Under 6 hours	...	50	54	104
Not recorded	...	19	56	75

The only point that emerges here is that the duration of the labour makes comparatively little difference. The longer labours have been attended in a high proportion by doctors since the midwife would call a doctor in to help in these cases.

<i>Presentation.</i>		Midwives.	Doctors.	Macerated.
Vertex	...	106	179	94
Breech and Footling	...	28	82	17
Transverse	...	—	8	2
Cord	...	—	4	1
Hand	...	1	1	1
Face	...	1	1	—
Cæsarian	...	—	1	—
Placenta Prævia	...	1	2	—
Not recorded	...	3	70	13

In 69 cases there is no record regarding maceration, so that out of 488, 128 or 25% were macerated fœtuses, in which, therefore, death had occurred at some appreciable interval before birth.

This shows that 25% were dead before labour commenced. It is considered that a high percentage of macerated fœtuses are syphilitic; the percentage suggested by different observers varies greatly. It has been placed as high as 83% while 26% is a more recent figure.

The high percentage of breech cases is noticeable, being 22%, while the percentage of breech cases, taking all births, is only 3.2%.

Number of Conceptions.

The table given below is of some interest, showing as it does that a high proportion of the multiparæ have had previous miscarriages or stillbirths. Of the 309 multiparæ, 125 have had previous miscarriages or stillbirths, equal to 40%.

PREGNANCIES OF MOTHERS WHO HAD STILLBIRTHS IN 1927.

				Mothers who had the following number of Stillbirths. or Miscarriages.							
				No. of Mothers.	1.	2.	3.	4.	5.	6.	7.
1	Pregnancy	...	...	171	...	171	—	—	—	—	—
2	Pregnancies	...	...	88	...	71	17	—	—	—	—
3	"	...	...	50	...	37	12	1	—	—	—
4	"	...	...	33	...	17	15	1	—	—	—
5	"	...	...	34	...	17	14	2	—	1	—
6	"	...	...	22	...	9	3	5	3	—	2
7	"	...	...	21	...	10	8	1	2	—	—
8	"	...	...	16	...	3	5	3	3	1	—
9	"	...	...	15	...	8	5	2	—	—	—
10	"	...	...	8	...	3	1	3	—	—	1
11	"	...	...	5	...	3	1	—	—	—	1
12	"	...	...	7	...	2	2	1	2	—	—
13	"	...	...	5	...	1	2	1	1	—	—
14	"	...	...	4	...	3	—	—	—	1	—
16	"	...	...	1	...	—	1	—	—	—	—
Total*				480	...	355	86	20	11	3	3

* In 8 instances no information was obtained.

It has been calculated that about 1 in 15 pregnancies end in abortion, miscarriage or premature birth. In the table given above there were 678 abortive conceptions in 1,697 cases, or 40 per cent. This figure, however, includes stillbirths in full-time cases, and is not strictly comparable with the figure quoted. Deducting the full time cases (300) the percentage falls to 27% or 1 in 3.7 pregnancies ending in abortion, a very high figure.

CHILD MORTALITY.

The deaths of children between one and five years numbered 589 as against 570 in 1926 and 755 in 1925.

The causes of death were as follows:—

Measles	...	...	...	...	...	...	...	94
Whooping Cough	...	...	...	...	...	...	...	36
Diphtheria	...	...	...	...	...	...	...	18
Scarlet Fever	...	...	...	...	...	...	...	5
Tuberculosis	...	...	...	...	...	...	...	51
Bronchitis and Pneumonia	...	...	...	...	...	...	...	230
Diarrhoea and Enteritis	...	...	...	...	...	...	...	23
Burns	...	...	...	...	...	...	...	6
All other causes	...	...	...	...	...	...	...	126

CHILD WELFARE CENTRES.

There are now 25 Child Welfare Centres in the City, serving definite areas. The work done from, and in, these Centres is outlined on page 89. In the child welfare areas 35% of all the children under five years of age attended the centres last year. The actual number of such children was 66,373 and 23,260 visited the centres. The highest percentage attendance was in the Trinity Road area, viz., 57%, the next five areas were:—(1) Carnegie Institute 52%, (2) Lichfield Road 50%, (3) Greet 43%, (4) Erdington 42%, and (5) Handsworth 40%. The first three showed an attendance among young infants born in 1926 and 1927 of over 70%.

In addition to the ordinary consultations and classes, four centres, omitting the Carnegie Centre, had ultra-violet Light Treatment Clinics last year, viz., Hope Street, Floodgate Street, Aston Street and Harborne. The clinics were opened late in 1927, and details of the work need not be included here, but they are already well attended and are doing useful work.

The ante-natal clinics have required to be increased in number. The midwives are recognising the need for ante-natal supervision by doctors, and this branch of the work is certain to require further extension. The number of births in the welfare areas was 16,316, and the mothers attending the ante-natal clinics numbered 4,615, giving a percentage of 28%. This is still much too low a percentage, and every effort is being made to increase it.

MATERNITY AND CHILD WELFARE CENTRES—YEAR 1927.

	Aston St.	Berkeley Rd., Hay Mills.	Bloomsbury St.	Bristol Road South, Northfield.	Carnegie Institute.	Floodgate St.	Harborne Lane, Selly Oak.	Holyhead Road, Handsworth.	Hope St.	Irving St.	Lansdowne St., Winson Green.	Lea House Road, Stitchley	Lichfield Rd.	St. Vincent St.	Short Heath Rd., Erdington.	Smith St.	Stratford Rd.	Trinity Rd.	Warwick Rd., Greet.	Washwood Heath Rd.	Wentworth Rd., Harborne.	Wright St.	King's Heath	Perry Common,	Pype Hayes,	Total.
Infants and Children:—																										
Births (and stillbirths) reported ...	691	666	1006	210	1005	581	392	463	797	657	716	444	1031	727	500	917	1111	533	679	990	183	996	585	305	131	16316
Primary visits ...	666	732	889	190	943	502	396	492	905	618	679	511	1027	761	492	1080	974	515	636	1003	195	1020	565	319	107	16217
Re-visits (infants and children) ...	9022	9919	14560	2773	17109	6543	4605	7770	13697	9876	11573	6686	16777	13804	5432	15946	12703	5690	9417	12726	4416	15309	6830	4953	1422	239558
Total visits & re-visits	9688	10651	15449	2963	18052	7045	5001	8262	14602	10494	12252	7197	17804	14565	5924	17026	13677	6205	10053	13729	4611	16329	7395	5272	1529	255775
Mothers:—																										
Primary visits ...	111	124	90	32	147	29	34	125	185	136	224	48	95	39	30	70	117	73	90	161	60	106	71	71	12	2280
Re-visits ...	145	93	151	65	187	95	47	35	229	49	211	18	46	39	24	134	84	61	53	90	157	172	74	53	3	2315
Total visits & re-visits	256	217	241	97	334	124	81	160	414	185	435	66	141	78	54	204	201	134	143	251	217	278	145	124	15	4595
Children's Consultations:																										
Number held ...	140	138	146	49	194	98	50	98	144	97	154	52	193	148	97	146	194	94	98	196	97	102	98	98	48	2969
Fresh children attend'g	560	676	657	115	1536	420	169	377	728	456	522	237	1060	542	369	778	778	549	516	791	169	635	700	501	194	14035
Total attendances ...	6572	5772	6155	1071	14042	5189	2079	5859	5829	4545	6653	2382	11713	6647	4548	9124	7688	4151	5048	9328	3108	6629	4496	3611	1174	143413
Number seen by Doctor	3524	2994	2496	928	5901	1533	1197	1695	3121	2385	3499	1307	5006	3160	2327	3237	3332	2236	2455	4204	1527	3362	1889	2034	651	66000
Mothers' Consultations:																										
Number held ...	46	43	94	15	95	48	23	25	48	13	50	24	50	48	32	100	48	47	48	95	23	48	50	47	28	1188
Fresh mothers attend'g	255	185	390	69	312	238	74	101	179	77	130	109	377	103	142	332	175	173	261	252	58	249	137	152	85	4615
Ante-Natal ...	18	16	27	9	47	2	2	23	19	11	32	26	87	58	24	45	18	56	34	98	14	39	30	40	4	779
Post-Natal ...	593	445	787	198	974	546	268	263	425	166	407	360	851	333	409	908	457	535	772	785	182	565	323	504	196	12252
Total attendances ...																										
Attendance at:—																										
Sewing classes ...	792	1316	589	178	710	645	643	745	626	507	614	453	578	413	325	507	59	784	850	—	250	691	345	471	—	13091
Cookery classes ...	30	—	—	400	556	239	—	60	—	—	—	—	—	—	—	595	946	10	84	127	50	—	—	—	—	3097
Health Talks ...	2838	2492	752	251	7010	1347	261	2925	971	865	2755	2591	832	1675	728	1291	1903	911	1557	1084	231	1907	928	684	—	38789

MARKS AWARDED IN VARIOUS SECTIONS OF WORK.

CENTRES.	I. PARENTS' WORK. (150 marks).				II. MOTHERCRAFT PAPERS. (100 marks).	III. BABY WEEK. (150 marks).	IV. CENTRE ATTENDANCES. (100 marks).			GRAND TOTAL. (500 marks).	
	Sewing.	Knitting.	Cookery.	Father's Work.			Total.	Children.	Ante- Natal.		Total.
1. Carnegie Institute	42	—	39	42	123	79	146	31	30	61	409
2. Handsworth	43	41	—	36	120	75	<u>135</u>	40	19	59	<u>389</u>
3. Hay Mills.	47	45	—	46	138	75	126	<u>22</u>	25	47	386
4. Wright Street	<u>44</u>	44	—	45	<u>133</u>	75	133	21	21	42	383
5. Lichfield Road	43	45	—	45	133	74	110	31	29	60	377
6. { King's Heath	42	42	—	44	128	85	115	24	20	44	372
7. { Smith Street	40	45	44	—	129	<u>70</u>	118	24	31	55	372
8. { Greet	43	45	—	48	136	85	74	30	38	68	363
9. { Erdington	45	44	—	<u>45</u>	134	<u>73</u>	92	25	39	<u>64</u>	363
10. { Northfield	33	43	43	—	119	78	95	25	<u>31</u>	56	348
11. { St. Vincent St.	46	47	—	35	128	67	114	27	12	39	348
12. { Lansdowne St.	41	<u>43</u>	—	40	124	66	109	29	17	46	345
13. { Floodgate Street	46	43	45	—	134	55	94	28	34	62	345
14. Hope Street	33	41	<u>—</u>	44	118	71	120	16	19	35	344
15. Aston Street	41	45	—	32	118	72	81	24	32	56	327
16. Stirchley	47	44	—	35	126	71	54	22	24	46	297
17. Washwood Heath	<u>—</u>	46	41	42	129	58	40	29	28	57	284
18. Irving Street	38	40	—	38	116	78	41	22	10	32	267
19. Bloomsbury Street.....	40	39	—	41	120	45	41	18	31	49	255
20. Selly Oak	38	37	—	38	113	47	55	19	19	38	253
* Trinity Road	42	—	42	40	124	52*	73	32	30	62	311
* Stratford Road.	31	14*	42	—	87	58	127	25	14	39	311

* Disqualified owing to incomplete entries.

— 1st in the Section or Sub-Section.

THE WALKER MOTHERCRAFT SHIELD COMPETITION, 1927.

The particular feature of the Competition in 1927 was the inclusion of a Baby Week Exhibition at each Centre. As a result a very admirable series of exhibitions was arranged; valuable from the educational point of view, and showing much originality and enterprise. The marks awarded in various sections of work at the Centres are shown in the table on the opposite page. The attendance marks were based on the percentage attendance of children in the area, in age groups and the regularity of attendance, and on the percentage attendance of expectant mothers at the ante-natal clinics, with their regularity of attendance.

THE CARNEGIE INFANT WELFARE INSTITUTE.

There has been no material alteration in the methods employed at the Carnegie Institute during 1927. The work falls into three categories, (a) The Child Welfare Centre, (b) The Special Clinics, (c) The Observation Ward. Each section may be considered separately.

(a) THE CHILD WELFARE CENTRE.

The Institute serves a large area of the City with a mixed population, mainly artisan in type. The child population under the age of five is about 3,950. The attendances of infants and young children at the Institute are higher than in any other area in the City, being 14,042. The area approximating most nearly to the Institute area has a child population under five of 4,160 and the attendances at that Centre in 1927 were 11,713. While all Centres have a certain number of children attending from outside the area, the Carnegie Institute has probably a higher percentage of these since a number of cases are sent from other Centres for further advice, but, allowing for this, the attendance is very satisfactory.

The following table gives the attendances at the Infant and Ante-Natal Consultations. During the year the Ante-Natal Clinics were reduced from three a week to two a week, since it was thought better to have the ante-natal clinic, formerly held at the Institute for the Heathfield Road Maternity Home cases, transferred to the Home itself. This change affects the figures for the ante-natal clinics as compared with 1926.

Consultations.					No. held 194.					
Infants under 1 year	...	...	...	Seen by doctor	...	3,222	} 8,889	} 14,042	
				Seen by nurse	...	5,667				
Children 1—5 years	...	...	...	Seen by doctor	...	2,679	} 5,153		
				Seen by nurse	...	2,474				
					No. held 95.					
Mothers	...	...	...	...	Attendances Ante-Natal		889		}
					Post-Natal		85			

Educational Classes.

Since the primary object of all child welfare work is educational, these classes form an all-important part of the work. At each infant consultation two or more short health talks are given in the waiting hall, and in addition special classes are held weekly in the class-room. These are much appreciated. During the year the Institute entered for three competitions and did well in each, viz., the Birmingham Walker Shield Competition, the National Mothercraft Shield Competition, and the "Daily News" Competition, being third in each case.

A very successful Baby Week was held in June, an original feature being "Living Pictures" for infant welfare propaganda, arranged by Miss Lloyd, the Assistant Superintendent, and carried out by the Carnegie Mothers' Dramatic Society.

The attendances during Baby Week numbered 11,000 apart from the ordinary attendances.

The Carnegie Magazine, which proved very successful for a year has now become the Birmingham Infant Welfare Magazine. The change was carried out at the suggestion of Sir John Robertson, then Medical Officer of Health. The Magazine continues to have a successful career.

EDUCATIONAL CLASSES.

No. held.			
Sewing classes	...	45	Attendances ... 710
Cookery classes	...	35	" ... 556
Mothercraft classes	...	40	" ... 611
Health talks	...	422	" ... 6,243
Special lectures	...	7	" ... 209

(b) SPECIAL CLINICS.

The dental clinics have had to be increased and five a week now are held, while it seems probable that this number will soon prove insufficient. The Test Feeding Clinics (for the maintenance and restoration of breast feeding) continue to do very useful work. The Remedial Exercise Clinics are quite insufficient and it is hoped it may be possible to increase the number. The Ultra Violet Light Treatment Clinics have been well attended. The opening of such clinics at other child welfare centres in the City will relieve the pressure on the Carnegie Centre. During the year the 1,926 cases were carefully studied and the results published in the "Lancet," November, 1927.

SPECIAL CLINICS.

	No. held.	Attendances.
Remedial Exercises	44	441
Test Feeding	82	405
Dental	206	(Mothers) 3,416
		(Children) 964
(Anæsthetics given—Local, 520. Gas, 1,962).		
Light treatment	145	4,416
X-Ray Examination	47	678

THE REMEDIAL EXERCISES CLINIC.

No. of clinics ...	44	Attendances ...	441	Average attendance ...	9
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The number of cases treated was 134. The conditions for which treatment and instruction were given were as follows:—

(1) Bow legs, knock-knee or flat foot	85
(2) Chest deformities	9
(3) Poor muscular development	20
(4) Constipation	7
(5) Other conditions	13
Total ...	134

THE ARTIFICIAL SUNLIGHT CLINIC.

No. of clinics, 145. Attendances, 4,416. Average attendance, 30.

Condition.	No. of cases.	Attendances.	Average.
RICKETS:—			
Severe cases treated till normal	38	881	23
Mild cases treated till normal	6	84	14
Old rickets	6	72	12
Severe cases not completed, but ceased to attend	20	386	19
Prophylaxis cases	4	61	15
General Debility	112	1,275	11
Debility following infection	18	213	12
Catarrh	9	112	12
Chest conditions	15	154	10
Anæmia	4	85	21
Whooping cough	2	25	12
Mothers	8	97	12
Totals ...	242	3,445	14
Cases continuing treatment after Dec. 31st ...	63	971	
(Put on light by never attended—29)			
	305	4,416	

The results of treatment in groups of children who made regular attendances were as follows:

(1) *Rickets*. 33 cases. Ages from 6 months to 4 years. Average period $4\frac{1}{2}$ months.

The amount of treatment required to obtain a radiograph showing "healed rickets" necessarily depends on the severity of the disease. Six very severe cases required an average of 45 treatments, the longest being 66 treatments. In 18 less severe cases the number of treatments required averaged 14. Two treatments are given weekly.

The remaining cases in this group did not complete their attendances for a final radiograph.

The general improvement in health in these cases is very striking, and the increase in weight is well above normal. (See table below).

- (2) *Poor development and malnutrition.* 42 cases. Ages from 6 months to 5 years. Average treatments 20. Average period 3 months.

These were thin puny children, fairly lively and energetic, suffering from faulty diet and hygiene, or convalescent from illness. The results obtained were very good—marked improvement was obtained in 26 cases, some improvement in 13, none in 2, and no record was made in one case.

- (3) *General debility.* 27 cases. Ages from 6 months to 5 years. Average treatments 20. Average period 3 months.

These were flabby lethargic children with poor muscular development, suffering from faulty diet and hygiene or convalescent from illness. The result of treatment was good—19 showed marked improvement, 7 some improvement, and in one case no improvement was shown.

- (4) "*Nervous Irritability.*" 12 cases. Ages from 12 months to 5 years. Average treatments 18. Average period $2\frac{1}{2}$ months.

These were poorly developed children, highly irritable and very fretful. They were restless, sleepless, and had a poor appetite. In all cases they were mismanaged.

The result of treatment was unsatisfactory.

There was no improvement in 6 cases, slight improvement in 5, and marked improvement in one.

- (5) *Special Conditions.* 14 cases.

(a) *Chronic Bronchitis.* 2. Average number of treatments 25. Result—marked improvement in both cases, accompanied by good gain in weight.

(b) *Chronic Bronchitis and Asthma.* 3. Average number of treatments 12. Result—in one case marked improvement, the asthmatic attacks ceased. In two cases no improvement.

(c) *Croup.* 1. One case which had 12 treatments, resulting in marked improvement to the general health with cessation of the croup.

(d) *Eczema.* 8. These cases are dealt with in detail below. As a whole the results are encouraging.

1. Age 3 years. Received 42 treatments over a period of 14 months, with an interval of 4 months in the middle. Result—marked improvement in general condition. The eczema improved, but always returned.
2. Age 4 years. Received 29 treatments over a period of 8 months. Result—similar to the above.
3. Age 1 year. Received 12 treatments in 6 weeks. Result—no improvement.
4. Age 3 years. Received 12 treatments in 6 weeks. Result—slight improvement.
5. Age 2 years. Received 14 treatments in 2 months. Result—slight improvement.
6. Age $2\frac{1}{2}$ years. Received 13 treatments in 1 month. Result—no improvement.
7. Age 1 year. Received 20 treatments in 3 months. Result—very marked improvement. Eczema did not return.
8. Age $1\frac{1}{2}$ years. Received 49 treatments in 6 months. Result—very marked improvement. Eczema did not return.

TABLE SHOWING GAIN IN WEIGHT WHILE UNDER TREATMENT.

Age Groups. (Months).		Normal.	Group 1, Rickets.	Group 2, Malnutrition.	Group 3, Debility.	Group 4, Nervous.
6—12	...	13 ozs.	14 ozs.	17 ozs.	18 ozs.	—
12—24	...	7 "	$9\frac{1}{2}$ "	$10\frac{1}{2}$ "	11 "	8 ozs.
24—36	...	6 "	7 "	7 "	$10\frac{1}{2}$ "	$8\frac{1}{2}$ "
36—48	...	5 "	8 "	12 "	2 "	$4\frac{1}{2}$ "
48—60	...	5 "	—	7 "	2 "	—

ANTE-NATAL AND POST NATAL CLINICS.

Total ante-natal cases seen	...	...	...	...	889
Fresh	„	„	„	...	312
Total post-natal cases seen	...	...	...	...	85
Fresh	„	„	„	...	47

The cases coming to the Carnegie Institute seeking admission to Heathfield Road Maternity Home numbered 59. Of these, 5 were refused admission, 4 on account of contracted pelvis and 1 because of mitral endocarditis.

The chief abnormalities and complications seen were as follows:—

(a) *Contracted Pelvis.*

(1) Small round.	(a) Slight true conjugate	3½-in. to 4-in.	...	...	47 cases.
	(b) Medium	3-in. to 3½-in.	...	...	10 „
	(c) Extreme	below 3-in.	...	...	3 „
(2) Flat	(a) Moderate	over 3-in.	...	...	17 „
	(b) Extreme	below 3-in.	...	...	1 „
(3) Funnel shaped	...	...	...	...	2 „

(Extra large pelvis was found in 57 cases, bearing out the observation made two years ago in this report of an increasing number of pelvises of large size in these days of greater hygiene with regard to women's dress and exercise).

(b) *Other abnormalities and complications.*

Abortions—Inevitable	...	...	...	...	2 cases.
Threatened	...	...	...	...	1 „
Placenta Prævia	...	...	...	...	1 „
Albuminuria	...	...	...	...	11 „
Threatened Eclampsia	...	...	...	...	1 „
Heart Disease—Endocarditis	...	...	...	...	6 „
Diabetes	...	...	...	...	1 „
Temporary glycosuria	...	...	...	...	1 „
(confirmed in laboratory as glucose and not lactose).					
Fibroid complicating pregnancy	...	...	...	...	1 „
Salpingitis	„	„	„	„	1 „
Syphilis	...	...	...	...	2 „
Twins	...	...	...	...	2 „
Patients who came because of sterility	...	...	...	...	7 „

One Carnegie Institute case who had no albuminuria when examined, and who failed to continue attendance at the Centre, developed Eclampsia, but recovered.

(c) *THE OBSERVATION WARD.*

No. of Beds	...	...	10 cots—1 adult bed.
Cases admitted	...	...	154 (21 mothers, 133 children).
Average stay	...	...	21 days.

The reasons for admission were re-establishment of breast feeding in 10 instances, wasting and general ill-health (for investigation) in the remaining 144.

Cases discharged	...	...	...	...	149
(a) In good health	...	...	...	...	34
(b) Improved	...	...	...	...	103
(c) No improvement	...	...	...	...	12

No cases of infectious disease occurred. There were five deaths, 2 from chronic enteritis, 1 from congenital heart trouble, 1 from pyloric stenosis and 1 from pneumonia.

The cases were similar in character to those of previous years and the results have been very satisfactory. The mismanagement cases frequently give very dramatic results which in many instances sufficiently impress the parents to secure a permanent improvement in management.

A special investigation into the cause and treatment of anæmia in young children has been undertaken. Progress is necessarily slow, but 83 cases have been investigated since 1924, and though it is too soon to make any definite deductions the following tentative conclusions have been reached:—

1. In cases of uncomplicated rickets anæmia, if present, is of a mild secondary type.
2. Severe anæmias occur in rickets associated with chronic enteritis of the putrefactive type, probably with toxic absorption.
4. Severe anæmias occur in congenital syphilis associated with marasmus and possibly with no other symptoms.
5. With treatment improvement is first obtained in the number of red cells. The hæmoglobin percentage rises very slowly.
6. Rickets is healed and the general health improves considerably earlier than the anæmia.

The time the medical officers are able to give to investigation work is necessarily very limited and no help is available, so that progress cannot be rapid.

There can be no doubt that the observation ward is doing very useful work on special lines.

ARRANGEMENTS FOR OPERATIVE TREATMENT FOR ENLARGED TONSILS AND ADENOIDS.

The Public Health Committee has made arrangements with the Children's Hospital for the treatment of children under five years suffering from enlarged tonsils and adenoids, a suitable payment being made in each case.

The following figures have been obtained for 1927:—

Number of children sent for Examination	...	...	...	...	629
“ “ “ who attended	...	...	...	...	519
“ “ “ for whom operation was advised	...	...	...	...	471
“ “ “ on whom operation was performed	...	...	...	...	352
“ “ “ for whom no operation was advised	...	...	...	...	48

Of the children who were sent from the Child Welfare Centres for examination and who attended, 91% required the operation, and in 74%, the operation was actually performed. Unfortunately the pressure on the accommodation at the clinic was such as to involve considerable delay. An additional session has now been arranged to meet this difficulty.

THE BABIES HOSPITAL, WITTON.

During the year 1927, 203 cases were admitted to the Babies Hospital, the majority being children were under one year of age. Practically the whole of the children were discharged either cured or very much improved, and the few who remained in the same condition as on admission, were the cases that were sent home on August 17th when the hospital was disbanded on account of a case of smallpox. This was owing to the fact that the recognised smallpox hospital was in the same grounds as the Babies Hospital, but not in the same buildings. Following this date, the hospital was closed entirely until September 24th.

Thanks to the efficient carrying out of the barrier system of nursing by the staff, the wards were not closed at all during the whole year for infectious disease arising in the hospital. The only two cases of infection were of nasal diphtheria and were removed from the hospital after application of a virulence test to the organisms isolated.

There was no serious illness among the nursing staff, apart from one sister, who was taken ill at the end of December and admitted to the General Hospital.

A great event in the history of the hospital, was the opening of a new ward on October 23rd to accommodate 25 children between the ages of 2 years and 5 years, and thus bringing the total accommodation up to 50. Also towards the end of the year, a part of the babies ward containing the ultra violet lamp, was partitioned off, in order to separate the out-patients from the babies who were in the ward. These out-patients attended the hospital for light treatment.

During the year, there were 9 deaths, all under one year of age, the causes were as follows:—

3 Marasmus.	1 Broncho-pneumonia.
1 Marasmus and broncho-pneumonia.	1 Acute gastro-enteritis.
2 Prematurity.	1 T.B. meningitis.

CHILDREN UNDER ONE YEAR.

121 children of under one year were admitted to the hospital during 1927. The distribution of the cases was as follows :—

76 Marasmus.	2 Splenic anæmia.
8 Marasmus and rickets.	1 Habit vomiting.
9 Prematurity.	1 Congenital heart disease.
6 Infantile dyspepsia.	1 Convalescent from Rammstedt's operation.
3 Pylorospasm.	1 T.B. meningitis.
3 General debility.	8 Malnutrition and mismanagement.
2 Acute enteritis.	

Complications arising during the patients stay in hospital included the following :—Broncho-pneumonia, bronchitis, pyelitis, seborrhœa, otitis media and enteritis. One case of marasmus accompanied by cretinism was admitted, and two cases of cleft palate were admitted in order that their condition might be improved sufficiently for operation to be done. The child, who was admitted after Rammstedt's operation for pyloric stenosis, came on the tenth day, and made very satisfactory progress, being discharged well at the end of three weeks.

Lactified milk was again used with great success during the year, as also was Edelweiss Buttermilk.

BETWEEN ONE AND TWO YEARS.

There were 54 cases of this age admitted to the hospital; the distribution of cases was as follows :—

27 Malnutrition.	2 Pneumonia.
19 Rickets.	1 Splenic anæmia.
3 Chronic bronchitis.	
2 Debility.	
(a) Following whooping cough.	
(b) Following scurvy.	

The rickets were treated in groups of three, each group containing a case treated with one of the following :—Ultra violet light, radiostol, and Crooke's Emulsion. The average number of days in hospital was 79. Very little difference was found in the rate with which the rickets healed under the three several forms of treatment; the advantage, if any, lay with the cases treated with ultra violet light.

OVER TWO YEARS AND UNDER FIVE YEARS.

These formed the smallest number of cases, owing to the fact that, until the new ward was opened in October, there was no accommodation for them; there were 28 cases in all.

15 Malnutritions and mismanagements.	2 Chronic bronchitis.
5 Rickets.	1 Nervous enuresis.
2 Debilities.	1 Fibrosis of lung.

Two children were admitted for one day only.

THE MUNICIPAL MATERNITY HOME, HEATHFIELD ROAD, HANDSWORTH.

The number of cases admitted during 1927 was 357, of whom 26 were treated ante-natally and re-admitted for confinement. During the previous year 322 cases were admitted, showing an increase of 35 last year.

The average duration of stay was 13.4 days, and medical help was sought in 122 cases. The reasons for which medical help was sought were as follows :—

(a) Ante-natal	...	...	Ante partum hæmorrhage	...	...	...	1
(b) During labour	...	...	Transverse presentation	...	...	...	1
			Breech complicated	...	...	...	4
			Occipito posterior	...	...	...	9
			Fœtal distress	...	...	...	7
			Large head with spina bifida	...	...	...	1
			Rigid os	...	...	...	3
			Rigid perineum	...	...	...	1
			Maternal distress	...	...	...	3
			Delayed second stage	...	...	...	13

(c) After labour	...	...	Mastitis	...	...	...	...	3
			Phlebitis	...	...	...	...	1
			Parotitis	...	...	...	...	1
			Chest complications	...	...	...	...	1
			Cervical tear	...	...	...	...	1
			Cyst in breast	...	...	...	...	1
			Boils	...	...	...	...	1
			Retained membrane	...	...	...	...	1
			Collapse after delivery	...	...	...	...	1
			Perineal sutures	...	...	...	...	52
(d) For infant	...	...	Congenital hernia	...	...	...	...	1
			Unsatisfactory case	...	...	...	...	1
			Congenital heart	...	...	...	...	1
			No vitality	...	...	...	...	1
			Convulsions	...	...	...	...	6
			Premature	...	...	...	...	6

There were no cases of puerperal sepsis.

There were three cases of mastitis with pyrexia, two of whom were sent to the Women's Hospital.

There were no cases of pemphigus neonatorum.

There were six cases of "discharging eyes," of which three were undoubtedly ophthalmia neonatorum. Two of these had positive swabs. The mother of one had apparently not had a vaginal discharge, and the other mother had received appropriate treatment at a Special Clinic and had to all appearance been cured. All six babies made a good recovery.

Six infants were not breast fed—the reasons are given below :—

Mother not well	...	...	...	...	...	1
Cyst in breast	...	...	...	...	...	1
Deformed breasts	...	...	...	...	...	1
Breasts unsatisfactory	...	...	...	...	...	1
Mastitis	...	...	...	...	...	2

There were no maternal deaths.

The foetal deaths are given below :—

Stillbirths	...	...	...	...	...	9
Premature births	...	...	...	...	...	5
Convulsions	...	...	...	...	...	3
Congenital heart	...	...	...	...	...	1
Asphyxia	...	...	...	...	...	1
No vitality	...	...	...	...	...	1

The infants on the whole did very well.

The nurses instruct the mother as to the care of the child before discharge.

Where there has been a deficiency of breast milk, it has frequently proved possible to get milk by expression from another mother till the breast milk has been obtained in sufficient quantity. This has been particularly useful for premature babies.

MATERNITY OUTFITS.

Cheap maternity outfits can be obtained at all the Child Welfare Centres. One is sold at 6/2 and a smaller one at 3/-.

Last year 133 of the larger and 39 of the smaller outfits were issued.

PROVISION FOR CONFINEMENTS AT THE COST OF THE PUBLIC HEALTH DEPARTMENT IN HOSPITALS OF THE BOARD OF GUARDIANS.

During the year under review 942 patients were admitted to Dudley Road Hospital or Selly Oak Hospital for confinement because of the inadequacy of their home conditions. In the majority of cases these consisted of lodgings in cottages.

The cost to the Public Health Department was £5,039. The amount of money recovered from the patients was £1,016.

The total number of births in Guardians' Hospitals, Maternity Homes, or Homes, amounted to 4,201, i.e., 24 per cent. of the births occurring during the year.

HOME HELPS.

Forty Home Helps are now employed, the busiest areas being Small Heath and Bordesley Green, Hay Mills, Greet, Sparkhill, Winson Green, Ladywood and Balsall Heath.

Three hundred and twenty-seven cases were attended during the year. These were chiefly confinements, with a few cases of illness which could be directly traced to the mother's previous confinement. Home Helps were also sent to look after homes when an expectant or nursing mother had gone to a Convalescent Home.

One large firm have arranged with the Public Health Department that Home Helps may be sent to the homes of their workpeople during a confinement or from non-infectious illness of the mother; the full fee is guaranteed by the firm in every case.

Besides the benefit to the mother due to absence of household worries, and the provision of well-cooked food during the lying-in period, the work of the Home Helps is of great educational value, especially to the thriftless and careless type of mother.

CONVALESCENT HOME FOR NURSING AND EXPECTANT MOTHERS.

PYPE HAYES HALL.

There has again been an increase in the number admitted during the year, and except in January and February the Home was working to its full capacity. The Matron made special efforts during the Winter months to provide entertainments, and a concert was given every Saturday evening, to which husbands were invited.

During the year 12 infants were cared for whose mothers were seriously ill in hospitals, etc., some remained till they reached the age of six months, as no accommodation could be found for them elsewhere.

Forty-three ante-natal cases were admitted and greatly benefited by their stay.

The Matron has made every effort to develop the educational side of the institution, mothers are instructed in baby care and in making baby clothing. Another valuable feature has been in the re-establishment of breast-feeding in cases of failing lactation, by means of test feeding, careful supplementary feeds and educational methods.

During the whole year a small infant consultation, and an ante-natal clinic were held weekly at the Home for the women living on the Pye Hayes Municipal Estate, but the attendance rapidly became too large to allow of a continuance of this arrangement. The consultations have been transferred to the Bromford Wesleyan Hall in Wheelwright Road, Erdington.

The following figures are of interest :—

Number of beds ...	...	20.
Cases admitted ...	...	Mothers 426.
		Babies 390.
Average stay ...	...	Two weeks.

Discharged on account of illness :—

MOTHERS 3.	(1) Threatened miscarriage. Sent to Dudley Road Hospital, and recovered.
	(2) Advised by own doctor to go to Hospital, and recovered.
	(3) Breast abscess. Sent to Women's Hospital, and recovered.
BABIES 12	Five sent to Witton Babies Hospital, one to Dudley Road Hospital, one to Eye Hospital, one to Carnegie Institute, and four to own home.

MATERNITY FEEDING CENTRES.

During the year there were 20,313 dinners served at the 5 Maternity Feeding Centres which shows an increase of 4,000 over the attendances of last year.

Up to Whitsuntide cooked meals were being ordered from a cook-shop, but after that date the Municipal Kitchen was opened and a cook engaged. The result has been very satisfactory. It has now become possible to ensure uniformly good meals and a variety of nourishing wholesome dishes.

The transport service has proved punctual and reliable.

No. of dinners during the first 5 months	...	...	...	= 7,190
No. of dinners during the next 7 months	...	...	...	=13,123
Cost of food and transport for first 5 months	...	...	...	=£241 9 4
				Net cost per meal = 8.1d.
Cost of food and transport for next 7 months (including wages, heating, gas and rates)	...	...	...	=£399 16 9
				Net cost per meal = 7.3d.

MIDWIVES ACT.

During 1927 the number of midwives who notified their intention to practise midwifery in the City was 254, of whom 9 were only employed temporarily on holiday duty. Of the remainder 199 were certificated, and 46 were "bona fide" midwives certified under the Act of 1902.

Sixteen of the midwives resided outside the City, but practised inside, and 13 were working in Institutions; 16 gave up practice during the year and 2 died.

The number of cases attended by midwives was 10,921, or about 60 per cent. of the confinements in the City.

MEDICAL HELP.

A midwife is required by law to send for medical help in certain well-defined conditions occurring in the mother or child, and for this purpose she has to send a written message to a doctor, a copy of which is furnished to the Public Health Department.

During 1927 the Birmingham midwives sent for medical help in 2,518 cases, that is, in 23 per cent. of the confinements attended by them.

REASONS FOR SENDING FOR MEDICAL HELP.

For Mother (1,845).				For Child (673).			
Delayed labour	...	...	628	Ophthalmia	...	...	313
Laceration of perineum	...	...	494	Prematurity	...	...	141
Hæmorrhage	...	...	133	Convulsions	...	...	12
Adherent placenta	...	...	94	Jaundice	...	...	23
Abnormal presentation	...	...	83	Deformity	...	...	36
Abortion or miscarriage	...	...	36	Skin eruptions	...	...	48
Rise of temperature	...	...	145	Other causes	...	...	100
Other causes	...	...	232				

During the financial year the Public Health Committee paid the doctor's fee in 591 cases, amounting to £740. During the year they recovered £535 from patients who were supplied with medical aid. The amount recovered, however, does not coincide with the payments, as in many cases repayment is made by instalments extending over a considerable period. The cost of recovery was £251.

SUPERVISION OF MIDWIVES.

Two Midwives Inspectors are employed in visiting midwives and in visiting certain cases in which stillbirths, puerperal sepsis, ophthalmia, etc., have occurred. Last year they paid 315 routine visits to midwives, 600 to ophthalmia cases, 142 to stillbirths, 196 to cases of puerperal sepsis, 1,132 with regard to Medical Help Fees, and 31 to Maternity Helps. They also had 245 interviews with midwives at the Public Health Department.

On July 1st an Insurance Scheme was inaugurated under which by payment of 5/- an expectant mother can insure against payment of the doctors fee if it should prove necessary to call one in. From July 1st to the close of the financial year, 1,673 such insurances were effected. The scheme will be reviewed in detail in the next annual report.

PUERPERAL SEPSIS.

During the year 97 cases were notified as Puerperal Fever and 117 as Puerperal Pyrexia under the new regulations issued by the Ministry of Health. Of these 123 were removed to hospital, viz., 71 of Puerperal Fever and 52 of Puerperal Pyrexia. In 18 instances a Consultant was obtained under the Regulations, and in 5 cases the services of the District Nurse were requested.

Since 1912 provision has been made for the admission into the Women's Hospital of any woman suffering from puerperal sepsis. In order to facilitate this admission ambulance accommo-

dition is provided free of charge. Any medical practitioner, therefore, who has a case of puerperal sepsis may get his patient removed into a hospital having a first-class staff of physicians and surgeons, so that the best available treatment is at hand.

The next table shows the number of deaths each year and the proportion per 1,000 births.

Year.								Deaths.	Deaths per 1,000 births.
1912	...	...	...	...	...	...	...	27	1.22
1913	...	...	...	...	...	...	...	44	1.85
1914	...	...	...	...	...	...	...	33	1.42
1915	...	...	...	...	...	...	...	35	1.65
1916	...	...	...	...	...	...	...	31	1.50
1917	...	...	...	...	...	...	...	26	1.47
1918	...	...	...	...	...	...	...	29	1.72
1919	...	...	...	...	...	...	...	23	1.19
1920	...	...	...	...	...	...	...	51	2.03
1921	...	...	...	...	...	...	...	26	1.17
1922	...	...	...	...	...	...	...	25	1.26
1923	...	...	...	...	...	...	...	34	1.78
1924	...	...	...	...	...	...	...	37	2.01
1925	...	...	...	...	...	...	...	35	1.96
1926	...	...	...	...	...	...	...	41	2.29
1927	...	...	...	...	...	...	...	25	1.45

MATERNAL MORTALITY.

The deaths of women classed to pregnancy and child-bearing in Birmingham during 1927 numbered 62. The number of live births was 17,252, giving a maternal mortality rate per 1,000 births of 3.59. Comparing these figures with those of 1926 it will be seen that Birmingham is below the country as a whole (4.12), and below the county boroughs as a whole (4.3), but above London (3.35) which has the lowest maternal mortality rate of any large area in the country.

The number of legitimate living births numbered 16,622, and the maternal deaths 60, giving a rate of 3.6 per 1,000 living births. The illegitimate living births numbered 630, and the maternal deaths were 2, giving a rate of 3.2 per 1,000 living births.

THE CAUSE OF DEATH.

1. *Sepsis* (after the 7th month)

Puerperal Septicæmia	...	...	...	...	...	...	8
" " and pneumonia	...	...	...	...	...	...	4
" " and meningitis	...	...	...	...	...	...	1
" " and secondary hæmorrhage	...	...	...	...	...	...	1
" " operation (hæmorrhage)	...	...	...	...	...	...	1
" " and eclampsia	...	...	...	...	...	...	1
" " following cæsarian section	...	...	...	...	...	...	1
Parametritis and secondary hæmorrhage following operation	...	...	...	...	...	...	1
Septicæmia and pneumonia following operation for pregnancy with fibroid at the 7th month	...	...	...	...	...	...	1
Thrombosis of the broad ligament and cerebral embolism	...	...	...	...	...	...	1
Hysterectomy and peritonitis	...	...	...	...	...	...	1
							— 21

2. *Septic Abortions*

General peritonitis	...	...	...	...	...	...	4
Septicæmia	...	...	...	...	...	...	3
Pulmonary embolism	...	...	...	...	...	...	1
							— 8

3. *Toxæmias*

Nephritis and Uræmia	...	...	...	...	...	...	4
Eclampsia	...	...	...	...	...	...	5
Hyperemesis	...	...	...	...	...	...	3
Icterus Gravidarum	...	...	...	...	...	...	1
							— 13

4. *Hæmorrhage*

Post-partum	...	...	...	...	...	...	6
Ante-partum	...	...	...	...	...	...	2
							— 8

5. <i>Obstructed Labour</i>									
Operative Shock	...	...	...	...	...	...	...	2	
Ruptured Uterus	...	...	...	...	...	...	...	1	
								—	3
6. <i>Ectopic Gestation</i>	...	...	...	...	...	...	...	...	2
7. <i>Post-puerperal Shock</i>									
Non-operative	...	...	...	...	...	...	...	2	
Operative (incomplete abortion)	...	...	...	...	...	...	...	1	
								—	3
8. <i>Cardiac Failure</i>	...	...	...	...	...	...	...	...	2
9. <i>Intercurrent Conditions</i>									
Pulmonary Tuberculosis	...	...	...	...	...	...	...	1	
Stenosis of Colon	...	...	...	...	...	...	...	1	
								—	2

The information given on the death certificates has been supplemented to some extent by reports from the infant visitors' and midwives' inspectors.

With regard to ante-natal care in these cases, 17 of the women appear to have received some medical attention; 5 attended ante-natal clinics at child welfare centres; 2 attended ante-natal clinics at the hospitals. This gives a low percentage of attendance, only 8 per cent. having attended the ante-natal clinics at the centres, against an average for all cases of 28 per cent.

The puerperal sepsis deaths form the largest group, and enquiries have been made in each case. The following particulars have been obtained:—

PUERPERAL SEPSIS.

Attendance at Confinement:—

Doctor and midwife	...	...	...	...	...	11
Doctor and handywoman	...	...	...	...	...	2
Midwife only	...	...	...	...	...	1
In Hospitals	...	...	...	5	(3 operative cases for Fibroid, Hysterectomy and Cæsarian section)	
In Nursing Homes	...	...	...	2		

Day of Onset. (First 3 groups only).

Second day	...	...	...	...	4
Third day	...	...	...	...	4
Fourth day	...	...	...	...	2
Eighth day	...	...	...	...	1
Thirteenth day	...	...	...	...	1
Indefinite	...	...	...	...	2
					—
					14
					—

Removed to Hospital:—

First day (after onset)	...	...	1
Second day	„	...	2
Third day	„	...	3
Fourth day	„	...	3
Tenth day	„	...	2
Eleventh day	„	...	1

Type of Labour:—

Normal	...	...	...	7	
Instrumental	...	...	...	7	
Injuries	...	...	...	6	(2 severe, in forceps cases).
Adherent placenta, manual removal				1	

The picture painted in these figures again brings out the urgent need for intensive ante-natal care to avoid difficult and dangerous confinements, and to guard against toxæmias.

OPHTHALMIA NEONATORUM.

The reported cases of this disease, together with the general statistics as to the results of treatment since 1917 are indicated in the following table:—

Year.					No. of cases reported.	No. of babies blind in :		No. of babies with eyes otherwise impaired.
						One eye.	Both eyes	
1917	...	...	...	...	237	3	0	6
1918	...	...	...	...	228	3	0	6
1919	...	...	...	...	282	4	0	5
1920	...	...	...	...	444	?	?	6
1921	...	...	...	...	427	1	0	0
1922	...	...	...	...	484	1	0	1
1923	...	...	...	...	433	0	0	10
1924	...	...	...	...	413	1	1	1
1925	...	...	...	...	335	0	2	3
1926	...	...	...	...	395	1	0	2
1927	...	...	...	...	409	2	0	0

During the year 17 patients were admitted to the special ward in the Eye Hospital and 337 were treated as out-patients.

TABLE I.
Vital Statistics during 1927 and previous years.

Year.	Population Estimated to middle of each Year.	BIRTHS.		DEATHS.		INFANT MORTALITY.		DEATHS FROM									
		BIRTHS.		DEATHS.		INFANT MORTALITY.		Influenza.		Tuberculosis.		Cancer.		Heart Disease.		Respiratory Diseases.	
		Number.	Rate.	Number.	Rate.	Deaths.	Rate.	Number.	Rate.	Number.	Rate.	Number.	Rate.	Number.	Rate.	Number.	Rate.
1901	760,989	23,866	31.4	13,290	17.5	4,205	176	122	.16	1,515	1.99	552	.73	896	1.18	2,656	3.50
1902	768,757	24,246*	31.2	12,650*	16.3	3,503*	144	97*	.12	1,356*	1.75	530*	.68	932*	1.20	2,517	3.24
1903	776,604	23,956	30.9	12,224	15.8	3,525	147	79	.10	1,362	1.76	592	.76	905	1.17	2,269	2.93
1904	784,532	24,260	31.0	13,882	17.7	4,346	179	104	.13	1,369	1.75	578	.74	943	1.20	2,635	3.36
1905	792,540	22,939	29.0	11,948	15.1	3,224	141	107	.14	1,316	1.67	643	.81	889	1.12	2,310	2.92
1906	800,631	23,484	29.4	12,737	15.9	3,682	157	123	.15	1,203	1.51	664	.83	956	1.20	2,239	2.80
1907	808,803	23,233	28.8	12,356	15.3	3,084	133	128	.16	1,241	1.54	645	.80	1,041	1.29	2,475	3.07
1908	817,060	23,986*	29.1	12,596*	15.3	3,124*	130	255*	.31	1,308*	1.59	702*	.85	1,028*	1.25	2,326	2.82
1909	825,400	22,555	27.4	12,398	15.1	2,727	121	151	.18	1,256	1.52	678	.82	972	1.18	2,428	2.95
1910	833,826	22,288	26.8	11,001	13.2	2,570	115	93	.11	1,168	1.40	737	.89	954	1.15	2,062	2.48
1911	842,337	21,975	26.1	12,623	15.0	3,298	150	79	.09	1,230	1.46	748	.89	1,013	1.21	2,114	2.51
1912	850,947	22,168	26.1	12,005	14.1	2,470	111	98	.12	1,292	1.52	791	.93	969	1.14	2,272	2.68
1913	859,644	23,812*	27.3	12,962*	14.9	3,070*	129	112*	.13	1,341*	1.53	893*	1.02	1,135*	1.30	2,170	2.48
1914	882,534	23,207	26.4	13,026	14.8	2,839	122	142	.16	1,293	1.47	773	.88	1,301	1.48	2,369	2.69
1915	891,234	21,187	23.8	12,816	14.4	2,490	118	146	.16	1,377	1.55	885	1.00	1,338	1.51	2,506	2.82
1916	895,678	20,618	23.1	12,081	13.5	2,142	104	146	.16	1,324	1.48	897	1.00	1,362	1.52	2,322	2.60
1917	900,000	17,706	19.7	11,274	12.6	1,791	101	98	.11	1,405	1.56	912	1.02	1,369	1.53	1,888	2.10
1918	870,000	16,840	19.4	13,175	15.2	1,674	99	2,172	2.50	1,385	1.60	883	1.02	1,241	1.43	2,473	2.85
1919	910,000	19,335*	20.9	12,000*	13.0	1,630*	84	1,062*	1.15	1,188*	1.28	935*	1.01	1,258	1.36	2,466	2.67
1920	910,000	25,069	27.6	11,409	12.6	2,072	83	421	.46	1,001	1.10	1,014	1.12	1,232	1.36	2,232	2.46
1921	919,683	22,134	24.1	10,361	11.3	1,838	83	134	.15	1,035	1.13	1,020	1.12	1,181	1.29	1,857	2.02
1922	927,844	19,850	21.5	11,212	12.1	1,705	86	442	.48	1,049	1.13	1,090	1.18	1,306	1.41	2,206	2.38
1923	936,079	19,069	20.4	10,248	11.0	1,370	72	264	.28	1,006	1.08	1,092	1.17	1,221	1.31	1,849	1.98
1924	944,386	18,390*	19.2	11,181*	11.6	1,518*	83	375*	.39	1,055*	1.10	1,251*	1.30	1,359	1.42	2,061	2.15
1925	952,766	17,836	18.8	11,102	11.7	1,389	78	370	.39	1,083	1.14	1,204	1.27	1,441	1.52	1,872	1.97
1926	961,222	17,932	18.7	10,847	11.3	1,301	73	260	.27	1,024	1.06	1,205	1.26	1,636	1.71	1,799	1.88
1927	969,752	17,252	17.8	11,171	11.6	1,299	75	399	.41	1,017	1.05	1,313	1.36	1,719	1.78	1,825	1.89

* 53 Weeks.

TABLE II.

Causes of, and Ages at Death during the Year ending December 31st, 1927.

CAUSE OF DEATH.	AGES.																	Males	Fe- males	Per- sons.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-				
I.—GENERAL DISEASES.																				
Enteric Fever	—	—	—	—	—	1	—	—	1	1	—	1	—	—	—	—	3	1	4	
Typhus Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Relapsing Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Mediterranean Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Malaria	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	1	
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Measles	27	58	20	9	7	8	—	—	—	—	—	—	—	—	—	—	66	63	129	
Scarlet Fever	—	—	1	4	—	3	—	—	—	—	—	—	—	—	—	—	5	3	8	
Whooping Cough	31	25	6	4	1	2	—	—	—	—	—	—	—	—	—	—	29	40	69	
Diphtheria	2	6	1	3	8	30	7	—	1	1	—	1	—	1	—	—	33	28	61	
Influenza	13	8	1	3	1	4	5	10	10	29	55	47	71	83	50	9	208	191	399	
Miliary Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Mumps	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Asiatic Cholera	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cholera Nostras	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Plague	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Yellow Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Spirochætosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Leprosy	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Erysipelas	2	—	—	—	—	1	1	—	—	1	2	2	3	5	1	1	8	11	19	
Ac. Poliomyelitis	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1	—	1	
Polioencephalitis	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	1	1	2	
Encephalitis Lethargica	—	—	1	—	—	1	1	1	3	2	7	5	5	2	—	—	13	15	28	
Meningococcal Meningitis	3	3	—	—	—	—	1	—	—	1	—	—	1	—	—	—	8	1	9	
Other Epidemic Diseases	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	4	
Glanders	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Anthrax	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Rabies	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Tetanus	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	2	—	2	
Mycoses	—	—	—	—	—	—	—	1	—	—	1	1	—	—	—	—	3	—	3	
Tuberculosis :—																				
Respiratory System.....	2	3	4	—	—	7	10	66	92	185	194	186	82	23	3	—	498	359	857	
Nervous System	9	12	10	6	—	16	2	5	2	—	2	3	—	—	—	—	32	35	67	
Intestines, Peritoneum	3	2	2	—	1	4	5	1	1	—	1	2	2	—	—	—	10	14	24	
Vertebral Column	—	—	—	—	—	2	—	1	1	2	1	2	1	—	1	—	8	3	11	
Joints	—	—	—	—	—	1	1	1	—	—	—	—	2	1	—	—	4	2	6	
Other Organs	3	—	2	—	—	—	—	2	1	—	2	3	1	2	—	—	7	9	16	
Disseminated	3	2	3	3	1	5	2	3	2	3	2	4	3	—	—	—	22	14	36	
Syphilis	6	—	—	—	—	—	1	1	2	4	8	10	12	3	—	—	40	7	47	
Soft Chancre	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Gonococcal Infection	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Purulent Infection, Septicæmia	3	2	1	—	1	5	1	1	1	1	2	2	4	—	—	—	14	10	24	
Other Infectious Diseases	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	
II.—GENERAL DISEASES NOT INCLUD- ED ABOVE.																				
Cancer :—																				
Buccal Cavity	—	—	—	—	—	—	1	—	1	—	2	17	25	15	6	—	56	11	67	
Phar. Œsop. stomach, liver, etc.	—	—	—	—	—	1	—	—	2	6	17	63	108	135	47	5	217	167	384	
Peritoneum, Intestines	—	—	—	—	—	—	—	—	1	—	19	43	83	93	51	9	152	147	299	
Female Organs	—	—	—	—	—	—	—	—	—	2	22	35	34	29	8	—	—	130	130	
Breast	—	—	—	—	—	—	—	—	1	2	20	38	42	24	15	6	—	148	148	
Skin.....	—	—	—	—	—	—	—	—	—	—	—	—	5	2	1	—	4	4	8	
Other Organs	—	1	—	—	—	3	1	2	4	7	16	50	81	71	38	3	192	85	277	
Non-Malignant Tumours	—	—	—	—	—	1	—	—	—	—	3	9	2	1	1	—	9	8	17	
Rheumatic Fever	—	—	—	—	1	5	16	5	5	5	4	5	4	4	1	—	20	35	55	
Chronic Rheumatism	—	—	—	—	—	—	—	—	—	2	—	6	12	21	22	3	28	38	66	
Scurvy	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	
Pellagra	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Beri-Beri	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Rickets	4	5	3	—	—	1	—	—	—	—	—	—	—	—	—	—	8	5	13	
Diabetes	—	—	—	—	—	—	2	—	1	4	5	10	31	37	9	1	42	58	100	

TABLE II.—Continued.

CAUSE OF DEATH.	AGES.																	Males	Fe- males	Per- sons.
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-				
Anaemia, Chlorosis	2	—	—	—	—	1	—	2	1	2	7	14	13	10	—	—	19	33	52	
Diseases of Pituitary Gland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Diseases of Thyroid Gland	—	—	—	—	—	—	—	1	2	1	3	7	5	3	—	—	2	20	22	
Diseases of the Parathyroid Glands	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Diseases of Thymus	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	2	—	2	
Diseases of Adrenals	—	—	—	—	—	—	—	—	—	1	3	4	—	1	—	—	4	5	9	
Diseases of Spleen	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Leukæmia, Lymphadenoma	—	—	1	1	—	2	1	3	1	3	3	5	3	3	—	—	12	14	26	
Alcoholism	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	1	1	2	
Chronic Poisoning by Minerals	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Chronic Poisoning by Organic Sub.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Other General Diseases	4	2	1	—	—	—	1	1	2	—	—	1	1	—	—	—	8	5	13	
III.—NERVOUS SYSTEM AND SENSE ORGANS.																				
Encephalitis	—	—	—	1	—	—	1	—	—	3	—	4	1	1	—	—	7	4	11	
Meningitis	15	2	5	—	1	2	2	—	—	—	—	—	1	1	—	—	16	13	29	
Tabes Dorsalis	—	—	—	—	—	—	—	—	—	—	2	1	5	3	—	—	8	3	11	
Other Dis., Spinal Cord	—	—	—	—	—	—	1	1	—	—	2	7	3	8	1	—	10	13	23	
Cerebral Haemorrhage, Apoplexy, etc.	—	—	—	—	—	1	—	—	1	2	7	65	110	192	157	38	257	316	573	
Paralysis (of unstated origin)	—	—	1	—	—	—	—	—	—	—	1	—	5	9	4	3	11	12	23	
General Paralysis of Insane	—	—	—	—	—	—	—	—	—	3	10	6	3	1	—	—	17	6	23	
Other Mental Alienation	—	—	—	—	—	—	—	—	—	1	1	3	3	2	2	1	12	1	13	
Epilepsy	—	2	1	—	—	3	1	3	5	6	6	5	10	11	1	—	32	22	54	
Convulsions (5 and over)	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—	1	1	2	
Convulsions (under 5)... ..	31	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	11	36	
Chorea	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1	1	
Hysteria, Neuritis	—	—	—	—	—	—	—	—	—	—	—	3	1	—	1	—	—	5	5	
Cerebral Softening	—	—	—	—	—	—	—	—	—	—	—	1	—	5	3	—	6	3	9	
Other Diseases of Nervous System	2	—	1	1	1	1	5	3	2	6	7	17	16	14	6	—	38	44	82	
Diseases of Eyes and Annexa	—	—	—	1	—	—	—	—	—	—	1	—	—	1	—	—	—	3	3	
Diseases of Ear:—																				
1. Mastoid Disease	1	—	—	1	1	4	—	2	1	1	—	—	—	—	—	—	5	6	11	
2. Other Diseases of Ears	2	—	—	1	—	2	3	—	2	—	1	1	1	1	—	—	6	8	14	
IV.—CIRCULATORY SYSTEM.																				
Pericarditis	1	2	2	—	—	2	—	1	—	—	1	1	2	1	—	—	9	4	13	
Acute Endocarditis and Myocarditis	2	1	—	—	—	2	1	4	7	12	7	6	4	—	1	—	24	23	47	
Angina Pectoris	—	—	—	—	—	—	—	—	—	1	2	6	12	20	9	1	40	11	51	
Other Dis. of Heart	—	—	—	—	—	—	9	10	18	31	68	178	313	441	453	87	706	902	1608	
Disease of Arteries	—	—	—	—	—	—	—	1	—	1	13	42	80	153	130	40	275	185	460	
Embolism, Throm. (not Cerebral).	—	—	—	—	—	—	—	1	—	1	1	—	1	4	3	—	4	7	11	
Diseases of Veins	—	—	—	—	—	—	—	—	—	—	—	2	1	2	2	—	3	4	7	
Diseases of Lymph. System	—	—	—	—	—	—	—	1	—	—	—	—	—	1	—	—	1	1	2	
Hæmorrhage (cause not stated)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Other Dis. of Circulatory System	—	—	—	—	—	—	—	—	—	—	1	2	2	3	2	—	5	5	10	
V.—RESPIRATORY SYSTEM.																				
Diseases of Nasal Fossæ	—	—	—	—	—	—	1	—	2	—	1	2	1	—	—	—	5	2	7	
Diseases of Larynx	—	2	—	1	1	—	—	—	—	—	—	—	—	1	—	—	1	4	5	
Bronchitis	66	14	2	1	—	4	2	2	2	3	14	43	100	183	196	62	332	362	694	
Bronchopneumonia	181	126	32	15	5	12	2	2	1	8	20	30	35	60	41	4	303	271	574	
Lobar Pneumonia (or type not stated)	25	16	13	4	2	12	8	9	10	32	69	83	65	61	32	5	312	134	446	
Pleurisy	2	3	1	—	—	—	—	1	—	—	3	1	3	4	—	—	8	10	18	
Congestion and Hæmorrhagic Infarct of Lung	1	—	—	—	—	1	—	—	—	—	—	1	1	4	12	3	11	12	23	
Gangrene of Lung	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Asthma	—	—	—	—	—	—	—	—	—	—	1	3	12	11	10	2	21	18	39	
Pulmonary Emphysema	—	—	—	—	—	—	—	—	—	—	—	3	2	2	3	—	9	1	10	
Other Dis. of Respiratory System	—	—	—	—	—	1	—	—	—	1	1	—	2	2	2	—	8	1	9	
VI.—DIGESTIVE SYSTEM.																				
Diseases of Buccal Cavity	1	—	—	—	1	—	—	—	—	2	1	2	2	3	—	—	7	5	12	
Diseases of Pharynx and Tonsils	—	1	—	1	3	4	2	1	1	—	3	—	2	—	—	—	7	11	18	

TABLE II.—Continued.

CAUSE OF DEATH.	AGES.																Males	Fe- males	Per- sons
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
Diseases of the Œsophagus ...	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	—	1
Ulcer of Stomach and Duodenum ...	—	—	—	—	—	—	—	—	1	10	24	27	34	19	5	—	91	29	120
Other Dis. of Stomach ...	6	1	—	1	—	—	—	—	—	—	—	6	3	5	9	3	19	15	34
Diarrhoea, Enteritis ...	178	20	1	—	2	1	2	1	3	5	4	2	4	7	6	2	124	114	238
Ankylostomiasis ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Intestinal Parasites ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1
Appendicitis and Typhlitis ...	—	—	1	2	2	7	3	5	4	7	7	7	7	2	1	—	25	30	55
Hernia, Intestinal Obstruction ...	8	1	—	1	1	1	1	—	1	1	4	6	16	21	15	3	38	42	80
Other Dis. of Intestines ...	—	—	—	—	—	—	—	—	—	—	1	2	3	2	2	—	7	3	10
Acute Yellow Atrophy of Liver ...	—	—	—	—	—	—	—	—	—	1	1	—	1	—	—	—	1	2	3
Hydatid of Liver ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cirrhosis of Liver ...	1	1	—	—	—	—	—	—	—	3	9	20	12	10	—	—	33	23	56
Biliary Calculi ...	—	—	—	—	—	—	—	—	—	—	1	4	3	5	4	1	5	13	18
Other Dis. of Liver ...	1	—	—	1	—	1	—	—	—	1	1	1	5	3	2	—	8	8	16
Diseases of Pancreas ...	—	—	—	—	—	—	—	—	—	1	—	2	2	—	—	—	4	1	5
Peritonitis (cause unstated) ...	1	—	1	1	—	1	—	—	—	1	2	1	1	2	—	—	7	4	11
Other Diseases of Digestive System...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VII.—GENITO-URINARY SYSTEM.																			
Acute Nephritis ...	2	—	—	2	1	—	—	1	3	2	1	—	1	—	1	1	8	7	15
Chronic Nephritis ...	—	—	—	—	—	2	8	3	3	10	24	41	50	63	33	4	107	134	241
Chyluria ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Dis. of Kidneys and Annexa ...	3	—	—	—	—	1	—	—	—	1	2	4	3	2	1	—	4	13	17
Calculi. of Urinary Passages ...	—	—	—	—	—	—	—	—	—	1	2	1	3	1	1	—	7	2	9
Diseases of Bladder ...	—	—	—	—	—	—	—	—	1	—	1	2	3	11	10	5	23	10	33
Diseases of Urethra, etc. ...	—	—	—	—	—	—	—	—	—	—	—	1	2	5	1	—	9	—	9
Diseases of Prostate ...	—	—	—	—	—	—	—	—	—	—	—	2	9	22	15	1	49	—	49
Non-Veneral Dis. of Male Organs ...	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	2	—	2
Cysts & Tumours of Ovary(non-malig.)	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	2	2
Salpingitis & Pelvic Abscess in Females	—	—	—	—	—	—	—	—	—	2	1	3	1	—	—	—	—	7	7
Tumour of Uterus (non-malig.) ...	—	—	—	—	—	—	—	—	—	—	4	4	—	—	—	1	—	9	9
Non-Puerperal Uterine Haemorrhage	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	2	2
Other Diseases of Female Organs ...	—	—	—	—	—	—	—	—	—	1	—	1	1	—	—	—	—	3	3
Non-Puerperal Diseases of Breast ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
VIII.—THE PUERPERAL STATE.																			
Accidents of Pregnancy ...	—	—	—	—	—	—	—	—	—	5	1	—	—	—	—	—	—	6	6
Puerperal Haemorrhage ...	—	—	—	—	—	—	—	—	—	4	5	—	—	—	—	—	—	9	9
Other Accidents of Childbirth ...	—	—	—	—	—	—	—	—	1	3	3	—	—	—	—	—	—	7	7
Puerperal Sepsis ...	—	—	—	—	—	—	2	2	18	3	—	—	—	—	—	—	—	25	25
Puerperal Phlegmasia Alba Dolens,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Embolism ...	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	2	2
Puerperal Albuminuria & Convulsions	—	—	—	—	—	—	—	—	2	7	—	1	—	—	—	—	—	10	10
Childbirth not in other Headings	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(Puerperal Insanity) ...	—	—	—	—	—	—	—	—	—	2	1	—	—	—	—	—	—	3	3
Puerperal Dis. of Breast ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
IX.—SKIN AND CELLULAR TISSUE.																			
Gangrene ...	—	—	—	—	—	—	—	—	—	—	—	1	2	7	9	3	11	11	22
Carbuncle, Boil ...	—	—	—	—	—	—	—	—	1	—	1	2	3	2	—	—	8	1	9
Cellulitis, Acute Abscess, ...	4	—	—	—	—	—	—	—	1	2	1	1	2	3	—	—	11	3	14
Other Diseases of Skin and Annexa	5	1	—	—	—	—	—	—	1	—	—	—	—	4	3	—	9	5	14
X.—BONES AND ORGANS OF LOCOMOTION.																			
Diseases of Bones ...	2	—	—	—	2	4	2	3	—	1	1	2	2	1	—	—	14	6	20
Diseases of Joints ...	—	—	—	—	—	—	—	—	—	—	1	1	—	—	2	—	3	1	4
Amputations ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Dis. of Locomotor System ...	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
XI.—CONGENITAL MALFORMATIONS.																			
Congenital Malformations ...	72	6	—	—	2	2	1	1	1	2	1	—	—	—	—	—	44	44	88

TABLE II.—Continued.

CAUSE OF DEATH.	AGES.																Males	Fe- males	Per- sons
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	85-			
XII.—DISEASES OF EARLY INFANCY.																			
Cong. Debility, Sclerema, Icterus, ...	88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41	47	88
Premature Birth, Injury at Birth, etc.	389	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	230	159	389
Other Diseases, Early Infancy ...	46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25	21	46
Lack of Care ...	11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	6	11
XIII.—OLD AGE.																			
Old Age ...	—	—	—	—	—	—	—	—	—	—	—	2	—	54	177	120	130	223	353
XIV.—EXTERNAL CAUSES.																			
Suicide—																			
Poison (Solid, Liquid or Corrosive Substances). ...	—	—	—	—	—	—	—	—	2	2	10	8	4	3	1	—	14	16	30
„ Poisonous Gas ...	—	—	—	—	—	—	1	1	4	11	14	13	7	4	—	—	31	24	55
„ Hanging, Strangulation ...	—	—	—	—	—	—	—	1	1	3	4	3	3	1	—	—	11	5	16
„ Drowning ...	—	—	—	—	—	—	1	1	4	2	3	3	—	—	—	—	8	6	14
„ Firearms ...	—	—	—	—	—	—	—	—	1	1	—	1	—	—	—	—	3	—	3
„ Cutting or Piercing ...	—	—	—	—	—	—	—	2	1	4	6	7	2	3	—	—	22	3	25
„ Jumping from High Places ...	—	—	—	—	—	—	—	—	1	1	1	1	—	—	—	—	2	2	4
„ Crushing ...	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	2	—	2
„ Other Suicides ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Poisoning by Food ...	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	1	1	2
Poisoning by Venomous Animals ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Acute Poisonings ...	—	1	—	—	—	—	—	—	1	1	—	—	2	—	—	—	5	—	5
Conflagration ...	—	1	—	1	—	1	2	3	—	—	1	—	—	—	—	—	2	7	9
Burns (Conflagration excepted) ...	—	4	—	2	—	2	—	2	1	1	1	1	5	1	3	2	13	12	25
Acc. Mechanical Suffocation ...	26	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	13	14	27
Acc. Absorption of Irrespirable or Poisonous Gas. ...	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	1
Accidental Drowning ...	—	—	—	—	2	3	4	2	—	1	3	—	1	1	1	—	18	—	18
Accidental Injury—																			
By Firearms ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ Cutting or Piercing ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ Fall ...	—	—	1	—	—	1	—	1	2	3	4	11	10	24	38	10	47	58	105
„ Mines and Quarries ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ Machines ...	—	—	—	—	—	—	—	2	—	2	1	3	—	—	—	—	8	—	8
„ Crushing by Motor Vehicles ...	—	—	1	3	2	9	4	9	12	18	13	12	14	12	7	2	82	36	118
„ Other Crushing ...	—	2	—	1	—	—	2	1	1	—	2	2	2	—	1	—	11	3	14
„ Animals (Poisoning excepted) ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ Wounds of War ...	—	—	—	—	—	—	—	—	—	1	—	2	—	—	—	—	3	—	3
„ Execution of Civilians by Armies ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
„ Hunger or Thirst... ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	1
Excessive Cold ...	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1	—	1
Effects of Heat ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lightning ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Electricity ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Homicide by Firearms ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Homicide by Cutting or Piercing ...	—	—	1	—	—	—	—	—	2	—	—	—	—	—	—	—	3	—	3
Homicide, Other Means ...	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1	1	2
Infanticide ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Fractures (not specified) ...	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Other forms of Violence, Execution ...	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	2	2
Violent Deaths, cause unknown ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	1
XV.—ILL-DEFINED DISEASES.																			
Ill-defined, Sudden death ...	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	1
Cause, ill-defined or unstated ...	1	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	2	—	2
TOTALS ...	1299	342	121	76	50	196	128	190	241	518	814	1324	1677	2080	1676	439	5746	5425	11171

TABLE III. Births and Deaths Registered in, or belonging to, each Ward during the Year ending December 31st, 1927.

CAUSES OF DEATH.		Acoc's Green.	All Saints'	Aston.	Balsall Heath	Duddeston and Nechells	Edgbaston	Erdington (North)	Erdington (South)	Handsworth	Harborne	King's Norton	Ladywood	Lozells	Market Hall	Moseley and King's Heath	Northfield	Rotton Park	St. Bartholomew's	St. Martin's	St. Mary's	St. Paul's	Satley	Sandwell	Selly Oak	Small Heath	Soho	Sparkbrook	Sparkhill	Washwood Heath	Vardley	Not Located	City
Enteric Fever	...	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	1	—	—	—	—	4	
Small Pox	...	—	—	4	3	17	3	7	—	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	—	—	—	
Measles	...	1	2	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	129	
Scarlet Fever	...	—	—	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8	
Whooping Cough	...	2	5	3	—	2	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69	
Diphtheria	...	1	19	—	—	1	3	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	61	
Influenza	...	9	23	16	13	13	18	8	8	28	6	6	10	8	8	15	7	24	19	22	14	15	10	10	8	13	9	21	12	12	9	1	399
Encephalitis Lethargica	...	1	—	1	2	2	—	1	1	2	—	1	1	—	1	2	—	—	1	1	—	2	—	1	—	1	1	2	1	3	1	—	28
Meningococcal Meningitis	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9
Polio-Encephalitis	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Acute Poliomyelitis	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Tuberculosis of	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Respiratory System	...	17	37	35	34	52	16	32	7	16	8	16	34	25	22	23	11	35	50	61	51	49	35	16	26	19	20	25	26	41	4	857	
Other Tuberculous Dis.	...	5	11	6	3	11	4	5	2	4	—	4	8	4	3	7	1	9	6	10	8	11	5	2	5	2	4	7	5	4	2	2	160
Cancer	...	52	61	60	59	54	61	32	24	35	26	24	38	52	16	49	13	51	63	73	48	48	36	24	43	50	46	39	49	52	7	1313	
Rheumatic Fever	...	4	1	2	2	2	—	2	1	1	—	—	3	2	2	1	2	—	2	4	6	3	4	—	1	2	—	1	3	3	1	—	55
Diabetes	...	2	2	1	5	2	7	5	2	3	—	3	8	4	—	9	1	4	3	5	—	4	7	—	3	3	5	4	3	—	4	1	100
Cereb'l Haemorr., Etc.	...	22	32	31	28	21	22	19	12	16	8	3	25	20	14	19	4	32	25	31	31	21	25	12	9	14	12	20	13	20	7	5	573
Other Dis. of Nerv. Sys.	...	11	10	16	16	21	16	12	5	18	7	6	9	15	3	14	4	18	13	19	15	7	5	2	7	5	7	8	12	10	6	5	322
Diseases of Heart...	...	49	72	85	85	80	67	57	30	46	23	44	51	62	39	66	13	81	73	103	83	70	54	23	46	45	30	72	61	51	35	23	1719
Arterio-Sclerosis	...	9	22	13	25	12	18	6	8	26	16	13	10	14	7	20	4	10	19	19	12	24	12	18	16	11	16	18	16	10	7	5	436
Other Dis. of Circulatory System	...	2	4	2	3	2	4	6	1	1	1	—	2	1	2	4	—	1	1	1	—	—	—	—	3	3	1	3	4	1	—	—	54
Bronchitis	...	22	29	32	32	39	23	14	6	14	13	19	28	24	20	21	3	35	28	46	36	33	10	20	14	21	27	31	18	29	12	5	694
Pneumonia	...	23	62	64	37	83	26	24	8	22	10	12	53	44	22	21	4	37	51	51	66	73	40	12	17	22	34	28	27	32	11	4	1020
Other Respiratory Dis.	...	4	7	5	3	5	7	2	1	2	3	2	5	3	1	2	1	4	6	10	5	4	4	—	4	4	4	3	4	5	1	—	111
Ulcer of Stomach and Duodenum	...	4	5	6	3	6	2	1	2	2	3	2	5	6	1	4	1	9	9	6	4	4	4	1	7	6	3	6	4	2	2	—	120
Diarrhoea, Enteritis, etc.—	...	—	7	8	6	14	2	4	1	3	1	3	8	—	6	4	1	9	12	28	24	21	4	1	1	2	2	6	6	7	4	3	198
Under two years...	...	1	—	—	1	4	3	1	1	—	2	1	—	1	2	1	—	—	—	3	5	1	—	1	2	—	2	1	3	2	—	—	40
Two years and over	...	2	2	1	2	2	3	2	1	3	2	4	1	1	—	3	3	2	1	2	1	1	—	2	1	1	2	1	4	2	3	1	55
Appendicitis, Typhlitis	...	2	2	1	2	3	1	—	4	2	—	1	4	2	5	2	—	4	3	—	2	2	1	1	3	1	1	1	1	1	—	1	56
Cirrhosis of Liver	...	4	6	1	2	3	1	—	4	2	—	5	9	6	6	10	1	14	4	8	13	4	6	7	6	7	5	3	16	7	2	209	
Other Dis. of Dig. Sys.	...	4	9	7	8	7	9	7	3	5	5	5	9	6	6	5	—	18	10	12	12	6	11	4	5	8	5	13	11	8	4	1	256
Nephritis Acute & Chronic	...	11	14	7	13	18	10	3	7	12	3	5	8	6	6	5	—	—	3	—	1	1	1	—	—	3	—	2	1	—	—	—	25
Puerperal Fever	...	2	—	2	—	1	1	1	—	—	—	1	1	1	—	2	—	—	—	—	—	—	—	—	—	—	—	2	1	—	—	—	—
Other Acc. and Dis. of	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pregnancy & Parturit'n	...	1	2	2	2	—	1	2	1	—	2	—	2	2	—	2	1	—	—	3	—	5	—	1	2	1	1	—	1	1	2	—	37
Congenital Debility and Malformation, Prema-	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ture Birth, etc.	...	11	29	22	25	37	17	18	14	6	11	6	16	26	12	11	4	26	29	26	38	33	19	8	19	10	12	22	18	25	13	2	565
Suicides	...	5	7	5	11	6	7	5	6	10	—	1	3	3	1	5	—	8	4	4	5	4	—	5	5	4	5	9	8	7	—	2	149
Other deaths from Violence	...	8	15	13	8	26	15	7	7	7	7	7	12	10	7	15	6	11	24	24	22	14	6	4	7	8	12	10	9	11	9	5	346
Other Defined Diseases	...	42	42	36	60	40	28	24	21	23	23	26	21	31	10	40	14	48	40	63	29	27	29	20	26	29	41	42	33	40	25	15	988
Causes ill def. or unknown	...	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
TOTAL DEATHS	...	331	530	488	492	583	395	314	186	310	184	224	387	379	223	380	99	509	517	649	542	510	348	199	292	298	319	403	372	400	213	95	11171
DEATHS UNDER 1 YEAR	...	19	61	64	52	106	27	40	17	16	15	15	47	42	29	23	9	60	73	86	97	92	45	11	25	18	31	40	43	53	30	13	1299
BIRTHS	...	535	743	803	596	1023	409	675	349	344	193	341	600	540	343	551	198	677	898	962	844	797	699	251	408	526	385	551	604	727	456	224	17252

TABLE IV.
Deaths under 1 year Registered in, or belonging to, each Ward during the Year ending December 31st, 1927.

CAUSES OF DEATH.			All Saints'	Aston	Balsall Heath	Duddeston and Nechells	Edgbaston	Erdington (North)	Erdington (South)	Handsworth	Harborne	King's Norton	Ladywood	Lozells	Market Hall	Moseley and King's Heath	Northfield	Rotton Park	St. Bartholomew's	St. Martin's	St. Mary's	St. Paul's	Saltley	Sandwell	Selly Oak	Small Heath	Soho	Sparkbrook	Sparkhill	Washwood Heath	Yardley	Not Located	City	
Measles ...	...	—	—	—	—	4	2	3	—	—	—	1	2	1	1	—	—	—	3	2	1	1	1	—	—	1	2	1	1	—	—	—	27
Scarlet Fever ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping Cough ...	...	3	3	—	—	2	—	3	—	—	2	3	1	2	1	1	1	3	1	1	2	1	1	—	—	—	—	—	—	—	—	—	31
Diphtheria, Croup	...	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	3	1	2	—	—	—	—	—	—	—	—	—	—	—	—	2	
Influenza ...	...	2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	2	1	—	—	—	—	—	—	—	—	—	—	—	13
Tuberculous Meningitis	...	1	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	9	
Abdominal Tuberculosis	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	
Other Tuberculous Dis.	...	—	—	—	—	1	—	—	—	—	—	—	—	1	—	1	—	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	8	
Rickets ...	...	1	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4
Syphilis ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6
Polio-encephalitis ...	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Encephalitis Lethargica	...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Cerebro-Spinal Fever	...	—	—	—	—	—	2	1	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	
Meningitis(not tuberculous)	...	—	—	—	—	2	—	3	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	15	
Convulsions ...	...	1	3	—	6	—	—	—	—	—	—	1	—	1	2	—	1	2	2	5	1	2	1	—	—	—	—	—	—	—	—	—	31
Bronchitis ...	...	3	4	—	8	—	—	—	—	1	—	—	2	—	—	—	—	2	2	3	3	3	—	—	—	—	—	—	—	—	—	—	66
Pneumonia (all forms)	...	4	12	17	25	—	2	6	1	3	—	1	11	7	2	2	1	11	13	6	23	14	7	1	2	3	7	2	5	4	1	2	206	
Gastritis ...	...	—	—	1	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	22	20	4	—	—	—	—	—	—	—	—	—	6
Diarrhoea, Enteritis, etc.	...	—	6	8	—	14	2	4	1	3	1	3	7	—	4	3	1	9	11	23	22	20	—	—	—	—	—	—	—	—	—	—	178	
Congenital Malformations	...	—	2	—	4	4	2	3	2	—	2	1	2	3	—	3	1	2	7	3	5	2	2	—	—	—	—	—	—	—	—	—	72	
Premature Birth	...	10	18	15	25	25	14	8	11	6	8	4	13	19	11	5	2	13	16	18	22	23	12	5	13	5	8	14	11	14	10	1	364	
Atrophy, Debility and Marasmus ...	...	—	7	4	6	—	—	3	—	—	—	—	1	2	1	1	—	10	5	3	9	7	4	2	1	3	3	4	3	6	—	1	88
Atelectasis ...	...	—	—	3	2	2	—	—	—	1	1	—	1	—	1	1	—	2	—	3	2	2	2	1	—	—	2	—	—	—	2	—	34
Injury at Birth	...	1	3	—	2	2	1	1	1	—	—	—	—	1	—	—	—	1	1	2	—	—	1	1	1	—	—	—	—	—	—	—	25	
Neglect (under 3 months)	...	—	—	—	1	1	—	—	—	—	—	—	—	—	1	1	—	—	2	—	—	1	—	—	—	—	—	—	—	—	—	—	11	
Suffocation (overlying)	...	—	1	2	2	2	—	1	—	—	—	—	—	—	1	1	—	—	4	4	2	3	1	—	—	—	—	—	—	—	—	—	1	25
Other Causes ...	...	2	5	—	3	2	1	4	—	1	—	—	2	3	—	—	3	2	3	7	4	6	2	1	1	1	3	—	—	4	5	2	72
All Causes ...	...	19	61	64	52	106	27	40	17	16	15	15	47	42	29	23	9	60	73	86	97	92	45	11	25	18	31	40	43	53	30	13	1299

TABLE V.

Cases of Infectious Diseases notified during each week of the year 1927.

Number.	WEEK Ending	Enteric Fever.	Continued Fever.	Malaria.	Trench Fever.	Smallpox	Scarlet Fever.	Diphtheria.	Dysentery.	Erysipelas.	Pulmonary Tuberculosis.	Other Tuberculosis.	Encephalitis Lethargica.	Cerebro-Spinal Fever.	Poliomyelitis.	Polio- Encephalitis.	Pneumonia.	Puerperal Fever.	Puerperal Pyrexia	Ophthalmia Neonatorum.	TOTAL.
1	1927. Jan. 8	1	—	—	—	—	24	47	—	7	25	2	1	1	1	—	106	3	1	8	227
2	" 15	—	—	—	—	—	21	38	—	12	35	8	2	—	2	—	92	4	1	7	222
3	" 22	—	—	—	—	—	21	30	—	9	28	9	1	1	1	—	51	—	2	7	160
4	" 29	—	—	—	—	—	16	31	—	4	27	8	1	1	—	—	68	—	3	12	171
5	Feb. 5	—	—	—	—	—	16	55	—	9	27	7	2	—	—	—	68	1	1	4	190
6	" 12	—	—	—	—	—	19	43	—	15	22	4	—	—	—	—	76	2	4	11	196
7	" 19	—	—	1	—	—	27	33	—	9	19	4	—	—	—	—	146	—	1	6	246
8	" 26	—	—	—	—	—	21	27	—	5	21	10	1	1	—	—	169	3	10	8	276
9	Mar. 5	—	—	—	—	—	16	33	—	5	36	9	2	—	—	—	155	1	3	3	263
10	" 12	1	—	—	—	—	23	53	—	10	28	2	—	—	2	—	98	4	2	5	228
11	" 19	2	—	—	—	—	29	48	—	8	31	1	1	—	—	—	68	3	1	11	203
12	" 26	1	—	—	—	—	28	45	1	9	29	7	1	—	1	1	42	4	4	6	179
13	April 2	—	—	—	—	—	28	29	—	11	28	6	1	—	—	—	45	2	1	15	166
14	" 9	—	—	—	—	—	27	22	1	6	35	10	1	—	1	—	33	1	1	9	147
15	" 16	3	—	—	—	—	20	20	—	8	15	3	—	—	—	—	38	2	4	13	126
16	" 23	—	—	—	—	—	19	21	—	4	20	3	1	2	—	—	47	3	2	9	131
17	" 30	1	—	—	—	—	30	23	—	6	33	3	—	—	—	—	50	4	1	15	166
18	May 7	—	—	—	—	—	32	18	—	10	26	4	2	1	—	—	50	—	3	10	156
19	" 14	—	—	—	—	—	28	16	—	5	34	4	2	—	—	—	30	3	4	10	136
20	" 21	1	—	—	—	—	30	22	—	6	31	6	1	—	—	—	32	—	4	9	142
21	" 28	1	—	—	—	—	27	30	—	9	40	8	1	1	—	—	47	3	1	9	177
22	June 4	—	—	—	—	—	34	25	—	9	20	4	1	—	—	—	46	2	1	9	151
23	" 11	1	—	—	—	—	39	16	—	7	12	7	—	—	—	—	29	2	5	10	128
24	" 18	3	—	—	—	—	32	23	—	9	37	7	1	—	1	—	33	3	5	13	167
25	" 25	—	—	—	—	—	21	24	—	3	25	11	1	—	—	—	33	2	3	9	132
26	July 2	—	—	—	—	—	32	17	—	5	25	7	2	—	—	—	22	1	1	2	114
27	" 9	—	—	—	—	—	31	23	—	11	21	4	—	—	—	—	20	2	4	7	123
28	" 16	—	—	—	—	—	36	28	—	4	24	3	—	—	—	—	27	2	1	5	130
29	" 23	—	—	—	—	—	40	22	1	4	24	3	3	—	—	—	18	3	1	4	123
30	" 30	—	—	—	—	—	38	28	—	4	24	3	2	1	—	—	19	2	—	3	124
31	Aug. 6	—	—	—	—	—	22	16	—	9	16	4	2	—	—	—	25	3	—	4	101
32	" 13	—	—	—	—	—	23	18	—	8	13	6	3	1	—	—	24	3	—	5	104
33	" 20	4	—	—	—	1	23	16	—	7	26	3	3	—	—	—	14	2	2	14	115
34	" 27	3	—	—	—	—	26	20	—	10	26	6	1	—	—	—	14	3	3	11	123
35	Sept. 3	3	—	—	—	—	24	28	—	9	21	12	2	—	1	—	14	3	1	2	120
36	" 10	2	—	1	—	—	30	37	—	10	26	2	1	—	—	—	13	1	1	8	132
37	" 17	1	—	—	—	—	29	30	—	8	21	3	1	—	—	—	17	1	2	6	119
38	" 24	2	—	—	—	—	31	39	—	13	32	1	—	—	—	—	19	1	—	9	147
39	Oct. 1	1	—	—	—	—	35	27	—	12	33	4	—	—	1	—	25	1	1	11	151
40	" 8	1	—	—	—	—	35	26	—	8	30	7	—	—	1	—	33	—	2	1	144
41	" 15	2	—	—	—	—	49	34	—	11	23	2	—	—	—	—	24	—	4	14	163
42	" 22	—	—	—	—	—	46	37	—	7	30	6	1	—	1	—	45	2	2	11	188
43	" 29	2	—	—	—	—	35	27	—	8	20	2	—	—	1	—	46	1	3	8	153
44	Nov. 5	—	—	—	—	—	36	26	—	9	25	6	—	—	—	—	52	2	2	8	166
45	" 12	1	—	—	—	—	30	28	—	6	20	5	—	—	1	1	40	3	3	4	142
46	" 19	—	—	—	—	—	37	32	—	14	33	8	1	—	—	—	39	—	—	6	170
47	" 26	1	—	—	—	—	44	37	—	11	25	3	—	—	—	—	60	1	4	2	188
48	Dec. 3	1	—	—	—	—	34	47	—	11	31	4	2	—	—	—	63	2	2	10	207
49	" 10	1	—	—	—	—	36	45	—	12	34	4	2	—	—	—	85	—	4	6	229
50	" 17	—	—	1	—	—	28	32	—	6	23	3	3	—	—	—	79	1	1	6	183
51	" 24	—	—	—	—	—	33	25	—	8	19	1	—	2	—	—	82	4	4	3	181
52	" 31	—	—	2	—	—	19	26	—	7	14	5	—	—	—	—	70	1	1	11	156
TOTAL		40	—	5	—	1	1510	1543	3	427	1343	264	53	12	15	2	2641	97	117	409	8482

TABLE VI.
Cases of Infectious Disease notified during the Year 1927. Classified according to ages.

DISEASE.	AGES.												Totals.				
	0-	1-	2-	3-	4-	5-	10-	15-	20-	25-	35-	45-		55-	65-	75-	85-
Enteric Fever	—	—	—	2	1	6	7	8	2	7	—	5	2	—	—	—	40
Continued Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria	—	—	—	—	—	—	—	—	—	2	1	2	—	—	—	—	5
Trench Fever	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever	4	34	82	112	155	765	232	67	23	28	6	2	—	—	—	—	1510
Diphtheria	14	56	86	103	117	561	237	107	93	106	44	11	6	2	—	—	1543
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Erysipelas	12	4	3	5	5	9	12	24	20	45	66	86	81	39	11	5	427
Pulmonary Tuberculosis	2	3	7	5	4	80	66	152	184	258	260	214	87	18	3	—	1343
Tuberculous Meningitis	4	7	7	3	1	9	1	2	2	—	1	—	—	—	—	—	37
Tuberculosis of Peritoneum and Intestines	1	4	2	1	1	12	12	10	7	5	1	3	—	—	—	—	59
Tuberculosis of Spinal Column	—	1	1	—	1	7	2	4	1	2	1	1	—	1	—	—	22
Tuberculosis of Joints	—	—	1	—	2	11	11	3	4	2	4	2	3	1	—	—	44
Tuberculosis of Other Organs	—	3	3	1	4	23	8	17	6	13	7	6	—	1	—	—	92
Disseminated Tuberculosis	1	1	—	—	—	2	—	1	—	1	1	3	—	—	—	—	10
Encephalitis Lethargica	—	—	1	1	—	4	4	4	5	3	13	9	6	3	—	—	53
Cerebro-Spinal Fever	4	5	—	—	—	1	1	1	—	—	—	—	—	—	—	—	12
Poliomyelitis	1	3	4	2	1	4	—	—	—	—	—	—	—	—	—	—	15
Polio-encephalitis	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	2
Pneumonia	241	264	169	108	76	245	90	135	133	253	324	250	191	109	50	3	2641
Puerperal Fever	—	—	—	—	—	—	—	2	18	56	20	1	—	—	—	—	97
Puerperal Pyrexia	—	—	—	—	—	—	—	5	18	64	30	—	—	—	—	—	117
Ophthalmia Neonatorum	409	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	409
TOTAL	693	385	366	343	368	1740	684	543	517	845	781	595	376	174	64	8	8482

TABLE VII.
Cases of Infectious Diseases notified during the Year 1927. Classified according to Wards.

DISEASE.	Accock's Green.	All Saints'	Aston.	Balsall Heath	Duddeston and Nechells	Edgbaston	Erdington (North)	Erdington (South)	Handsworth	Harborne	King's Norton	Ladywood	Lozells	Market Hall	Moseley and King's Heath	Northfield	Rotton Park	St. Bartholomew's	St. Martin's and Deritend	St. Mary's	St. Paul's	Saltley	Sandwell	Selly Oak	Small Heath	Soho	Sparkbrook	Sparkhill	Washwood Heath	Yardley	Not Located	City	
Enteric Fever ...	2	2	2	2	—	—	2	—	1	3	—	—	—	—	2	1	1	2	—	—	—	6	1	—	3	—	2	4	2	2	—	40	
Continued Fever	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Malaria ...	—	—	—	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	—	—	5	
Trench Fever ...	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Smallpox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Scarlet Fever ...	50	81	61	84	45	33	84	52	30	9	28	57	49	12	45	21	117	43	48	43	47	44	46	37	41	56	35	69	50	50	43	1510	
Diphtheria	22	223	74	32	41	35	54	37	26	9	67	51	65	20	53	25	84	52	73	63	114	53	17	25	25	29	28	24	39	41	42	1543	
Dysentery	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Erysipelas	10	15	14	13	66	9	6	6	3	4	5	14	10	8	15	1	19	21	30	23	18	7	4	5	12	9	17	9	10	13	31	427	
Pulmonary Tuberculosis	20	57	68	57	95	36	21	17	18	12	29	56	45	34	31	14	62	76	98	94	63	57	18	40	33	39	41	34	43	21	14	1343	
Tubercular Meningitis	1	4	1	—	2	—	1	—	—	—	2	1	2	—	1	—	3	3	3	1	5	3	—	1	—	—	1	2	—	—	—	—	37
Tuberculosis of Peritoneum and Intestines	1	1	4	2	4	1	1	1	4	—	1	8	1	—	1	—	5	1	5	1	2	3	1	5	2	2	1	—	—	—	1	59	
Tuberculosis of Spinal Column	2	1	2	1	1	—	—	2	—	1	—	—	1	—	—	1	—	3	—	2	—	—	1	—	1	—	—	—	1	1	2	22	
Tuberculosis of Joints	—	4	1	1	1	—	—	—	—	1	—	1	3	1	—	1	2	3	4	4	2	4	—	—	2	2	—	—	1	5	—	44	
Tuberculosis of Other Organs	5	2	3	4	5	3	3	4	3	1	—	3	7	1	2	1	5	2	6	2	7	4	2	1	3	2	4	2	3	1	1	92	
Disseminated Tuberculosis	2	—	—	—	2	—	—	—	1	—	—	1	1	—	—	—	—	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	10
Encephalitis Lethargica	2	1	4	2	3	1	2	3	4	—	1	4	1	2	2	—	2	—	5	—	2	2	—	—	—	1	2	2	4	1	—	53	
Cerebro-Spinal Fever	—	—	1	—	1	1	—	—	—	—	—	2	—	—	1	—	—	—	1	—	—	1	1	—	—	1	1	—	1	—	—	12	
Poliomyelitis	—	1	1	—	2	1	1	1	—	—	—	—	—	—	—	—	1	—	1	—	1	1	—	—	1	1	—	—	2	—	—	15	
Polio-encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Pneumonia	97	149	117	83	254	57	61	27	50	27	30	132	81	56	62	11	148	158	167	190	131	98	24	43	83	29	66	63	65	50	32	2641	
Puerperal Fever	1	3	6	4	10	2	6	1	2	1	1	2	1	—	5	—	4	5	6	4	3	5	1	1	6	—	4	5	4	3	1	97	
Puerperal Pyrexia	7	5	5	5	3	3	5	1	1	2	1	3	8	1	4	2	3	9	9	2	5	6	—	3	6	2	4	2	5	4	1	117	
Ophthalmia Neonatorum	8	20	19	12	41	1	5	8	7	3	3	23	10	5	3	—	14	55	34	23	21	24	1	6	16	4	18	5	15	4	1	409	
TOTAL ...	230	569	383	302	577	183	252	160	150	72	168	359	287	140	227	78	470	433	491	455	422	320	117	170	233	177	225	222	249	191	170	8482	

TABLE VIII.

Temperature of the Air and Ground, Rainfall, Sunshine, and Wind in each Month of the Year 1927.
Observed at the Birmingham and Midland Institute Observatory, Edgbaston,
by Mr. A. J. Kelley.

MONTH.	TEMPERATURE OF THE AIR.				TEMPERATURE OF THE GROUND.		HOURS OF SUNSHINE.	RAINFALL IN INCHES.		DAYS ON WHICH 0.01 INCH OR MORE OF RAIN FELL.	MILES OF WIND.		
	Highest in the Shade.		Lowest in the shade.		Mean for the Month.	1927.		Above or below the average. *	1927.		Above or below the average. *		
	1927.	Above or below the previous highest. *	1927.	Above or below the previous lowest. *									
JAN.	53°	— 5	27°	+ 16	39.7°	+ 1.4	41	+ 7	2.77	+ 0.67	19	7996	—2435
FEB.	54	— 8	25	+ 17	39.3	+ 0.3	37	— 10	2.90	+ 1.10	13	5639	—3783
MAR.	65	— 5	33	+ 14	44.5	+ 3.3	85	+ 10	2.53	+ 0.63	18	7718	—2723
APR.	67	— 12	31	+ 5	46.5	+ 1.9	134	+ 12	1.51	— 0.24	14	7329	—2114
MAY	72	— 10	35	+ 4	51.8	—	130	— 31	1.97	— 0.24	11	5762	—3041
JUNE	76	— 9	41	+ 3	54.2	— 2.1	126	— 29	4.15	+ 2.14	21	6548	—1745
JULY	80	— 12	48	+ 9	59.9	+ 0.5	86	— 70	3.12	+ 0.64	17	6025	—2278
AUG.	75	— 19	48	+ 7	59.9	+ 2.0	130	— 16	3.73	+ 0.85	17	6397	—2051
SEPT.	72	— 19	39	+ 7	54.2	— 1.4	80	— 30	4.60	+ 2.69	16	6497	—1564
OCT.	65	— 14	37	+ 9	51.3	+ 2.6	73	— 3	1.76	— 0.95	18	6596	—2342
NOV.	62	—	29	+ 9	42.4	— 0.1	40	— 5	3.84	+ 1.62	17	7251	—1976
DEC.	50	— 7	20	+ 6	34.2	— 5.8	12	— 10	2.88	+ 0.14	12	6663	—3891

*In the forty years 1887-1926.

TABLE IX.

Meteorology and Mortality in each week of the year 1927.

WEEK.			Total Deaths.	Deaths under 1 year.	Deaths 65 and up.	DEATHS FROM							TEMPERATURE				Horizontal Movement of Air in Miles.	Hours of Sunshine	Rainfall in Inches
No.	Ending.	1927.				Measles.	Whooping Cough.	Diarrhoea and Enteritis under 2.	Pulmonary Tuberculosis.	Other Forms of Tuberculosis.	Respiratory Diseases.	of the Air.			Highest 4 feet Deep.				
												Highest in Shade.	Lowest in Shade.	Mean of Daily Maxima and Minima.					
1	Jan. 8	253	36	113	6	2	5	16	2	58	51°	32°	42°	45.2°	1747	8.0	0.30		
2	" 15	264	35	98	4	3	3	17	6	57	53	33	42	45.3	1762	8.7	0.13		
3	" 22	238	31	99	4	5	5	11	—	66	40	27	34	45.3	1215	11.7	0.40		
4	" 29	261	23	97	9	5	1	21	2	48	50	33	41	44.5	2508	10.3	1.88		
5	Feb. 5	273	36	84	2	1	2	22	2	61	49	30	39	44.0	1673	16.1	0.19		
6	" 12	269	30	110	4	1	—	14	5	62	47	25	35	43.7	1234	12.2	0.18		
7	" 19	390	39	168	5	3	5	27	4	92	54	25	40	43.3	1016	4.8	0.20		
8	" 26	399	45	168	10	6	6	20	2	122	51	32	42	43.6	1548	5.7	1.76		
9	Mar. 5	377	41	159	9	4	5	20	5	111	51	39	45	43.9	2414	13.3	1.04		
10	" 12	331	27	130	5	6	—	24	4	83	49	34	42	44.1	1347	14.0	0.30		
11	" 19	271	38	94	3	1	5	26	5	53	62	33	44	44.0	1455	20.6	0.04		
12	" 26	265	33	91	8	2	3	25	9	43	65	36	48	44.8	2098	22.5	0.85		
13	April 2	229	27	74	6	3	7	23	3	35	53	32	43	44.8	1597	19.7	1.16		
14	" 9	235	21	89	7	—	5	21	6	35	55	36	45	44.7	1466	27.6	0.83		
15	" 16	215	31	70	7	3	4	22	4	27	60	33	47	45.0	2056	23.6	0.15		
16	" 23	205	28	68	4	4	5	21	—	30	67	40	53	45.6	1672	36.0	0.09		
17	" 30	241	27	95	10	1	4	18	1	32	54	31	44	48.1	1645	42.5	0.18		
18	May 7	227	36	80	4	1	10	12	4	31	72	32	52	46.0	1394	18.7	0.73		
19	" 14	215	26	80	5	3	6	14	2	23	72	38	50	47.0	1332	32.8	0.14		
20	" 21	205	31	75	3	—	6	19	4	27	67	39	52	47.2	1314	42.2	0.91		
21	" 28	185	31	74	6	2	3	16	6	22	70	39	53	47.9	1343	30.2	0.07		
22	June 4	190	27	75	1	2	2	12	3	25	68	40	54	48.2	1049	25.9	0.23		
23	" 11	167	15	62	1	—	1	15	3	29	62	43	52	48.5	1170	25.9	0.81		
24	" 18	159	19	53	3	—	3	13	2	19	76	42	57	49.0	1477	39.3	1.71		
25	" 25	149	21	52	—	—	4	15	3	24	63	44	54	49.8	2280	33.2	0.99		
26	July 2	158	14	62	—	—	3	12	2	24	67	44	54	49.8	1507	12.0	1.00		
27	" 9	167	15	62	—	1	1	14	5	20	72	51	60	50.1	1730	25.4	0.62		
28	" 16	184	24	76	—	—	8	7	4	19	80	53	61	51.3	991	10.4	1.02		
29	" 23	163	9	55	—	—	1	13	3	15	69	50	59	52.0	1195	17.6	0.29		
30	" 30	158	22	50	1	—	7	19	6	7	70	49	60	52.3	1476	27.7	0.69		
31	Aug. 6	171	12	65	—	—	3	9	1	20	75	50	62	53.0	1004	45.5	0.07		
32	" 13	179	26	61	—	—	1	9	—	16	71	52	62	53.7	1531	30.8	0.48		
33	" 20	142	11	51	—	—	—	15	3	12	67	49	58	53.9	1470	16.9	2.70		
34	" 27	141	16	58	1	—	2	13	3	14	68	48	58	53.7	1750	31.7	0.40		
35	Sept. 3	166	15	57	1	1	—	17	4	11	72	52	62	53.6	1118	17.9	0.09		
36	" 10	175	20	65	—	—	5	16	3	8	66	46	58	54.0	1273	17.1	0.57		
37	" 17	156	14	54	—	—	1	17	—	9	61	44	52	54.0	1660	18.3	2.43		
38	" 24	163	14	61	—	1	6	19	2	18	64	40	53	53.2	1840	17.3	1.35		
39	Oct. 1	147	9	64	—	—	3	13	5	15	59	39	50	53.0	1738	18.4	0.33		
40	" 8	165	17	50	—	2	1	18	2	17	65	38	52	52.1	908	36.0	0.04		
41	" 15	154	11	63	—	—	1	7	2	17	59	41	49	51.9	962	11.4	0.05		
42	" 22	175	20	71	—	—	2	14	1	19	58	37	49	51.4	1509	11.6	1.16		
43	" 29	200	19	66	—	—	3	19	3	30	62	38	53	51.0	2434	12.1	0.40		
44	Nov. 5	194	27	75	—	2	6	14	3	32	62	41	53	51.4	2121	6.2	0.40		
45	" 12	192	17	73	—	—	7	19	3	24	48	29	37	51.4	1816	24.9	0.96		
46	" 19	201	19	86	—	—	4	11	5	28	51	30	42	50.0	1523	6.1	1.32		
47	" 26	192	25	67	—	—	6	13	3	19	50	36	42	48.9	1571	5.2	0.76		
48	Dec. 3	198	27	79	—	2	5	6	1	26	47	33	39	48.2	1205	—	0.42		
49	" 10	241	30	74	—	1	8	20	1	41	50	33	40	47.8	1158	0.9	0.07		
50	" 17	239	32	75	—	—	3	21	5	41	37	23	32	47.0	1357	0.4	0.39		
51	" 24	251	33	106	—	1	6	16	2	48	51	20	33	46.3	1288	3.3	2.00		
52	" 31	286	47	111	—	—	5	22	1	60	36	22	30	44.8	2452	7.3	0.40		

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